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Orthopaedic Physical Therapy Practice

Special Issue: Performing Arts Physical Therapy

AN OFFICIAL PUBLICATION OF THE ORTHOPAEDIC SECTION
AMERICAN PHYSICAL THERAPY ASSOCIATION

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1994 Combined Sections Pre-Conference Course:

"A Combined Approach to Manual Therapy"

February 2, 1994 --- New Orleans, Louisiana

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9:45-10:00	**Panel Questions**
10:00-10:15	Break
10:15-11:00	**Stanley Paris, PT, PhD: Mobilization/Manipulation (Low Velocity)**
11:00-11:45	**Michael Moore, PT: Soft Tissue/Stretching**
11:45-12:00	**Panel Questions**
12:00-1:00	Lunch
1:00-1:45	**Dick Erhard, PT, DC: Manipulation: High Velocity Thrust**
1:45-2:30	**Ola Grimsby, PT: Exercises**
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4:30-5:00	**Panel Discussions with Questions & Answers of all Speakers**
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Orthopaedic Physical Therapy Practice

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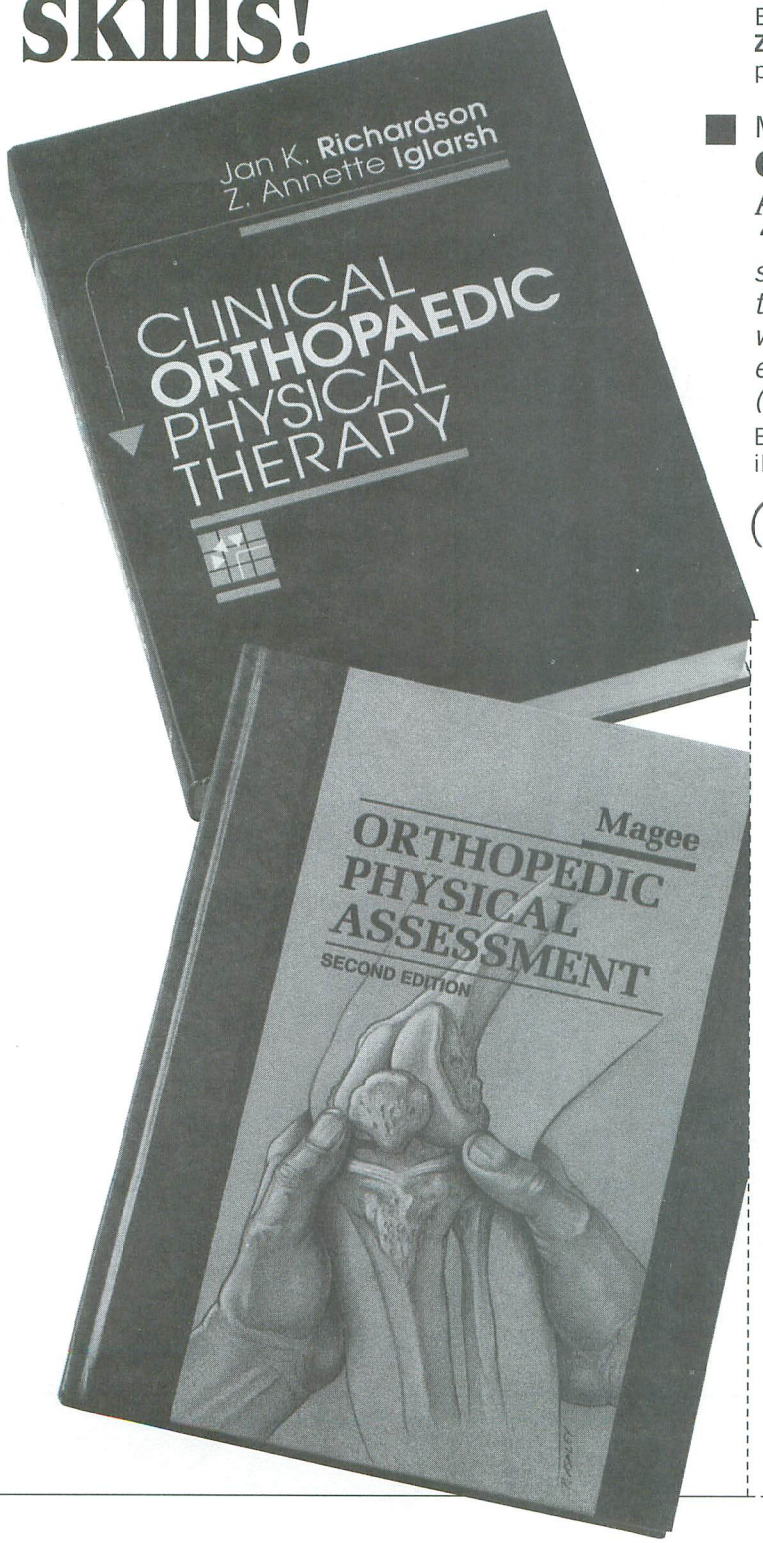

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Editor's Note

In Quarrier's article he refers to the "drive for perfection." The musician and dancer are clearly dedicated to the perfection of their art. This reminds me that although we must recognize the science involved in our profession, we must also honor the "art" of physical therapy, and physical therapists throughout the world are constantly striving to perfect their own techniques of touch. So put your favorite music on in the background and dance with this issue of OP—we've tried to make it perfect for you.

Jonathan M. Cooperman, MS, PT

GUEST COMMENTARY

PERFORMING ARTS PHYSICAL THERAPY

In the seven years I have been treating performers as a physical therapist I have seen many changes in the field of performing arts medicine. The first conference on dance injuries I attended was in Philadelphia in 1981. It was given by physicians who equated dancing injuries with running injuries. Having been a dancer for over 10 years, I had some difficulty accepting this comparison. Performers are generally a much different breed than athletes. The mentality and way of life of a performer is much different from that of an athlete. I have worked with both athletes and performers for over ten years. I started my career as a massage therapist in Philadelphia working on fellow dancers as well as at various health clubs. I found massage helped people feel better but did not completely take care of their injuries or get to the root of their problems. I spent three years at Temple University's Athletic Training department as a student trainer with the football team. I traveled with the gymnastics team as their student trainer, since gymnasts were as similar to dancers as I could find in sports. It was during this time that I became interested in physical therapy and was accepted to Temple University's physical therapy program. My goal when I graduated from physical therapy school was to treat dancers and other performers and to open a physical therapy practice specializing in performing arts medicine. After opening my practice I continued my education by becoming a Feldenkrais® practitioner and just recently graduated from Acupuncture school. When I was still dancing I found these therapy methods to be helpful along with physical therapy. Anyone interested in working with performing artists should have some knowledge of alternative health care methods.

There is a wealth of opportunity for physical therapists in working with performers. The best place to start is to take classes, see rehearsals and performances to understand the special needs of this unique group. The best way to begin working with a company may be to volunteer your time to allow the performers to know and trust you as a person. Working with performers allows you to become a part of a community of people who have the gift of making this world a little better with each performance. You will also be part of a growing community of therapists who share your enthusiasm in helping performers continue to do what they love—perform! There is access to this distinct patient population throughout the country. Whether you take your first dance class in Montana or music lesson in New York, the performing arts community is alive and well. Within local universities, performing arts companies and local schools there is a large population of performers in need of a physical therapist who understands their special needs as performers. I encourage interested physical therapists to approach schools and talk with administrators, teachers and students. Before long, performers will be seeking your expertise and specialized treatment. A Performing Arts Special Interest Group (SIG) is being organized within the Orthopaedic Section, APTA. We intend to have a national referral list of performing arts physical therapists for companies on tour, and to create a list of centers willing to teach physical therapy interns. The SIG will also serve as an information and referral source for therapists who may have questions about performers. There will be a round table at CSM '94 in New Orleans on physical therapy treatment of musicians and the anatomy of the neck and throat and physical therapy treatment of singers. In the future there will also be conferences designed specifically for the education of performers. Once the SIG is fully operational, we will also have a computer bulletin board on APTA-Net. If clinicians have any questions about patients' problems, they can ask for help through the computer network.

There are presently two international organizations whose membership is made of performers and health care providers. The International Arts Medicine Association is composed primarily of physicians who work with all types of performers. The International Association for Dance Medicine and Science has a membership of a diverse group of health care providers, dancers, educators and researchers. There are three professional journals available on performing arts medicine. *Impulse* and the *Journal for Kinesiology and Dance* are specifically geared towards dance. *Medical Problems of Performing Artists* consists of articles on all areas of performing arts medicine. Although things have come a long way in the past ten years we are only at the beginning of developing the field of Performing Arts Physical Therapy. I encourage those of you interested in research to join the SIG. We can start to compile a reference base of valid and reliable research in Performing Arts Physical Therapy. Information in this area is very limited and there is great potential for publication in the field. The information we can learn from performers can also help us to educate our fellow therapists in the art of movement therapy. Therapists working in this specialty will be the likely forerunners of progressive therapy in the next decade. I invite anyone interested to join in this education process and participate in any way you can.

Sean Gallagher, PT
Director
Performing Arts Physical Therapy
New York, NY

ATTENTION—ALL SECTION MEMBERS

The Orthopaedic Section has been receiving substantial requests for back issues of the *Journal of Orthopaedic and Sports Physical Therapy.*

Due to these requests, we have found it necessary to implement a policy limiting the number of back issues to a maximum of three months. We are sorry for any inconvenience this may cause.

As another option, additional issues may be obtained through the publisher, Williams and Wilkins at 1-800-638-6423. There will be a $15 charge per copy.

PRESIDENT'S REPORT

As always, summer seemed to sail by as slow as winters creep; September's rites of season, the cooling of temperatures and the beginning of school arrived abruptly. This President's message traditionally signals the beginning of a new year and even though many of us have been out of school for many years, we are still oriented to an academic calendar.

In many ways Fall is also a time of beginnings for the section. It is in August that the Finance Committee formulates the budget for the next year. Then, the Board of Directors (formerly the Executive Committee) and Committee Chairs meet in October to finalize the budget and update the strategic plan. This year that process was more membership driven in that more members have expressed their concerns and their interest by attending the business meetings and Section courses in greater numbers. More members have written to the Section officers and staff to discuss problems in the changing health care delivery system and offer solutions and assistance.

The Clinton Administration is also looking at Fall with thoughts of fresh starts as they propose government renovation and health care system changes. The new Health Care Delivery System Reform Act should be embroiled in extensive discussion in Washington and State government offices by the time you receive this issue of *Orthopaedic Physical Therapy Practice*. The Section, with the help of its Practice Committee, is attempting to provide support to its members and assist in their proactive response to this policy. We have initiated actions to position the Section appropriately for these proposed changes.

The Section is one of the founding components of the APTA Worker's Comp Focus Group which was created to collect and disseminate information to our members on trends and policy changes in Worker's Compensation and Managed Care. Building on this knowledge base, we hope to provide guidance to insurers to compensate for physical therapy that is both of the highest quality and the most cost effective.

The Section participated in the Foundation for Physical Therapy meeting on Low Back Injury and Upper Extremity Repetitive Strain Injury to recognize current research and identify areas that need research to substantiate the initiation, progression and termination of therapy on the bases of measured outcomes and predictable parameters. We are also working with the APTA, ABPTS, CAPTE and the American Academy of Orthopaedic Manual Physical Therapy (AAOMPT) to identify a method of accrediting residency programs in orthopaedic and manual therapy which will build on our current orthopaedic specialty examination. This process promotes the continued quality development of our profession and protects the public by identifying individuals with recognized advanced orthopaedic skills.

The creation and the support of orthopaedic special interest groups (SIG's) is also an effort to promote areas of advanced skills within our profession. At this time we have one SIG, one round table presenting to the Board of Directors for SIG status, two round tables in the beginning stage of doing the same and several groups inquiring about how they can become a round table. The Board of Directors discussed the evolution of SIGs within the Section at their October meeting and developed a policy to maintain an effective structure for the SIGs as they continue to develop and proliferate.

This issue of *Orthopaedic Physical Therapy Practice* is devoted to the Performing Arts Round Table that will be presenting for SIG approval. The performing patient challenges the knowledge base of the practicing therapist; these patients must be carefully guided through their rehabilitation to recapture their super-normal status while respecting the healing capacity of their injured tissue.

I wish you all success in the face of our changing practice environment and continuing professional evolution. Remember, the Section and your Association are together your base of support and vehicle of change.

Z. Annette Iglarsh, P.T., Ph.D.
President

FROM THE SECTION OFFICE

Terri A. Pericak, Executive Director

The Finance Committee met at the Section office in La Crosse, Wisconsin, August 27-28. The first day was spent listening to the Section investment broker, accountant and auditor speak on and discuss the Section's investments, accounting procedures and the 1992 audit. The Section staff also gave a short presentation on their job responsibilities and goals for 1994 which the Finance Committee thought was very beneficial. The second day was spent going over the draft 1994 budget. I am very pleased to announce that a balanced budget was achieved and will be recommended to the Executive Committee for approval at their Fall meeting September 30—October 3.

Don't forget that the Section is celebrating its 20th anniversary next year and we need you to help us start it off right. The Section is extending an invitation to all its members and their guests to participate in a gala celebration during CSM at the New Orleans Hilton. We are beginning our celebration with our Black Tie and Roses reception to honor the 1994 Rose Excellence in Research Award winner. After the presentation of the award, a New Orleans jazz quartet will lead everyone in a Mardi Gras parade out to the Mark Twain Courtyard where a chef will be preparing a crawfish boil including boiled potatoes and cajun boiled corn on the cob! (Don't worry, bibs and elbow gloves will be provided.) After the feast, the jazz quartet will change its repertoire to danceable music and play on into the night under a starlit New Orleans sky. We may even have a guest appearance by the famous jazz clarinet player, Pete Fountain! It should be a wonderful relaxing and fun evening for everyone. I'm looking forward to seeing you there!

THE PILATES METHOD IN PHYSICAL THERAPY OF THE DANCER

By Loren B. Stolarsky, PT

The Pilates® Method of Physical and Mental Conditioning is a form of repatterning and strengthening which is beginning to be incorporated into physical therapy. The method is used as a form of exercise by people with varying levels of physical ability. However, it is particularly appropriate for the general conditioning of dancers and is applicable for use in the rehabilitation of dancers.

HISTORY OF THE METHOD

Joseph Pilates was born in 1880 in Germany. He suffered from asthma and rickets and began developing his exercise methods in response to these conditions. Pilates studied different eastern and western styles of exercise and conditioning.[1] From these disciplines, he developed his own philosophy of exercise. In 1923, he moved to New York City and opened the Pilates Fitness Center. "Contrology" is the original term Pilates used to describe his theories.[1] Today, the application of his theories is known as the Pilates Method of Physical and Mental Conditioning. It is referred to as a full method because it is more than just a series of exercises and stretches. It is a complete philosophy of training both the mind and body to achieve uniform precision and control in the most efficient and healthful way possible.

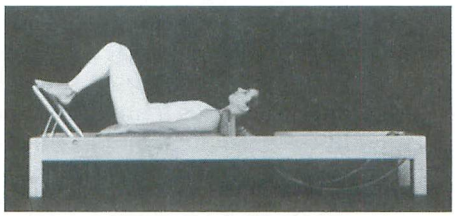
As stated in Pilates' book, his method was designed, ". . .to give you suppleness, natural grace and skill that will be unmistakably reflected in the way you walk, in the way you play and in the way you work. You will develop muscular power with corresponding endurance, ability to perform arduous duties, to play strenuous games, to walk, run or travel for long distances without undue body fatigue or mental strain. And this by no means is the end."[2]

From the early beginnings of the Pilates Fitness Center, noted dancers were attracted to his method and came on a regular basis to benefit from his exercises. Rudolph Van Laban, the originator of Labanotation, was the first person to link Pilates to the dance world.[1] The Pilates Method grew throughout both the modern and ballet dance circle as a form of body conditioning. George Balanchine, a regular at the Pilates Studio, sent Jacques D'Amboise to Mr. Pilates for posture correction. Both Martha Graham and Hanya Holm incorporated some of the Pilates exercises into their warmups. Other celebrated dancers who were great followers of Pilates include Ted Shawn, Suzanne Farrell, Natalia Makarova, Ruth St. Dennis and Jerome Robbins.[1]

APPARATUS AND MAT WORK

Pilates began his method with a series of exercises called the mat work. These exercises are done on a padded surface, as opposed to a bare floor, so as not to injure the spine. For beginning level students, the mat work is started with 5-10 exercises. These exercises are performed in each session until the students can gain a solid base from which to begin learning the method. As students improve, new exercises are added to their programs. There is a total of 34 mat exercises in the Pilates repertoire. The mat work is especially beneficial for dancers, as it can be performed independently of equipment. Many dancers use mat work as part of their warmups or cool downs. The mat work is also good for performers on tour for maintenance of strength and flexibility. All of Pilates exercises, including apparatus and mat work, were named by his students for either the purpose or appearance of the exercise.

As the method developed, Pilates invented different types of apparatus as supplements to the mat work. The types of apparatus include the Universal Reformer, the High Chair, the Low Chair, the Cadillac, the High Barrel, the Low Barrel, the Humpback, the Magic Circle and the Pedipole. The resistance on the equipment is provided by springs and is altered for each exercise and for each patient's abilities. As the springs are elongated, they provide increasing resistance.



Pilates Universal Reformer "Footwork"

THE SIX BASIC PRINCIPLES OF THE METHOD

There are 6 basic principles which Pilates employed in his method to coordinate mind and body. These are concentration, control, centering, flowing movement, precision and breathing.[1] All these techniques help dancers in performance.

Concentration on every part of the body is required while performing each exercise.[1] The position of any given body part affects and is influenced by all the others. Total body proprioception is increased with concentration.

Concentration is essential to the Pilates method to help increase control, the second technique of Pilates exercises. Each student must gain control over his or her entire body while performing the exercises. This is especially important for dancers. Suzanne Farrell, former principal dancer with the New York City Ballet Company, has said, "The Pilates Method teaches you to be in control of your body and not at its mercy."[1]

Centering is also required for Pilates exercises. The center is considered the abdomen, extending from the base of the ribs, to the top of the pelvis, all the way anterior to posterior.[1] This is referred to as the "powerhouse of the anatomy." The center is often used as the focal point for the Pilates exercises because its use leads to a better carriage and to better posture. As centering supports the torso, it increases control and grace and provides stability for easier movement of the extremities.

The next necessary element is flowing movement. Most of Pilates' exercises include a series of movement patterns, with multiple changes in direction and the use of more than one joint at a time. The exercises should be performed with stiffness or jerkiness, thus also aiding to increase control.

Control will also be increased by working with precision, the fifth principle of

the method. Avoiding haphazard motions helps to decrease the risk of injury.

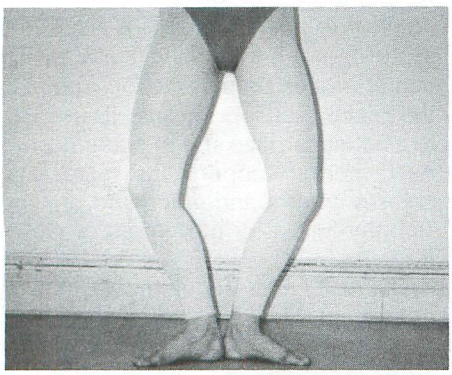
The last of the six techniques is breathing. Pilates believed that complete exhalation would facilitate a full inhalation, and thus, would increase the oxygen supply to all cells of the body and increase waste removal.[1,2] Breathing is coordinated with each phase of each exercise. The breathing techniques learned through the Pilates Method are also helpful for dancers in performance, when anxiety can cause shortness of breath.

The application of these six principles, to the exercise regimen, provides for a full method. It creates a philosophical approach to movement, not just an average series of exercises. The principals gained from Pilates can then be transferred for use in everyday life, especially by dancers in performance.

PILATES IN PHYSICAL THERAPY FOR THE DANCER

The Pilates Method is now becoming an integral part of physical therapy rehabilitation for dancers. As with any patient, the rehabilitation of each dancer begins with a thorough evaluation. The evaluation should include a subjective history of the present injury, chief complaint, past medical history, family history and current medications. The objective evaluation should include posture, gait, contour, palpation, range of mobility, joint mobility, strength, proprioception, neurologic tests, special tests and movement patterns.

At the end of each objective evaluation, a section should be directed toward the dancer's technique. As many of dancers' injuries are due to overuse, imbalances and improper alignment, a thorough technique evaluation is crucial. To begin, turn out should be evaluated



***Demi-plié* in first position**

in weightbearing in first, second and fifth positions, demiplies and releves. The therapist must note movement patterns, postures and substitutions. Other positions or dance steps about which patients complain should also be evaluated. It is in the technique evaluation where the source of many dancer's injuries may be determined, and it is the re-education of dance that will provide for thorough rehabilitation.

The first phase of treatment addresses the short term goals. The therapist must begin to treat the patient's pain, edema, muscular tightness and weakness. Techniques used may include massage, joint mobilization, range of motion and modalities for pain relief. Patients can be instructed on gentle stretches and strengthening exercises. The therapist must begin alignment and posture re-education for the patient and eventually offer technique retraining.

Some of the Pilates exercises can be incorporated into physical therapy in the early stages of rehabilitation. Mat exercises can usually be performed in the acute phase, as they are mostly performed in nonweightbearing. Some of the exercises on the apparatuses can be performed in the early stages to strengthen and to prevent deconditioning.

The Pilates method is extremely beneficial for dancers in accomplishing the long term goals of rehabilitation. It is used both pre- and postoperatively for strengthening and as preventative medicine to increase strength, flexibility, endurance, proprioception and to correct alignment imbalances. Each Pilates rehabilitation program is developed by the therapist specifically for each patient to avoid potentially harmful exercise and to emphasize important ones. Range of motion can be limited, according to the medical indications and the patient's limitations.

PILATES FOR MUSICIANS, SINGERS AND ACTORS

In addition, the Pilates Method is extremely beneficial for performers in other areas of the arts. Musicians often suffer from repetitive strain injuries in the hands and forearms due to poor posture and upper extremity proximal weakness. The "centering" and torso strength gained through Pilates training may be helpful in the prevention and treatment of musicians by increasing proprioception and postural stability. The breathing techniques learned in the Pilates Method may facilitate the use of greater lung capacity for musicians who play wind instruments and for singers and actors who rely on their voices.

FUNCTIONAL REHABILITATION

In Pilates, strengthening is provided in many different ways, all of which are necessary for a functional rehabilitation program and for return to activity. Pilates exercises are performed in both open and closed chain positions. With few exceptions, the mat work is performed in nonweightbearing. The apparatus exercises are performed in both weightbearing and nonweightbearing. At the conclusion of every class, a series of breathing exercises is done in standing along a wall.

Muscular work in Pilates is performed isometrically, concentrically and eccentrically. There is concentric work done to elongate the springs and eccentric work to release them. There is most often some accompanying isometric stabilization performed in each exercise—usually in the trunk or "powerhouse." The combination of these forms of strengthening is beneficial to the rehabilitation of the dancer.

The quality that distinguishes the Pilates equipment from most other forms of exercise equipment, is that it facilitates synergistic muscle action. Synergy is the combined efforts of multiple muscles or muscle groups to produce a single action. When patients perform exercises on most isotonic and isokinetic machines, they are often working to increase strength in one muscle group at a time across one joint at a time. Secondary muscles are used for stabilization, but the patient is usually not instructed to concentrate on this aspect of the exercise. Although these machines may be extremely helpful for reaching short term goals of strengthening, they do not provide functional exercises for return to activity. In dance, sports, and even just walking, there is always integration of muscle activity and rarely is there use of only one single muscle group. The synergistic training in Pilates is enhanced by concentration on the entire body while performing each exercise. An example of synergistic muscle work is when a dancer performs a port de bras (movement of the arm). There is isometric work performed throughout the torso to stabilize and accommodate for the change in the center of gravity. There is also synergistic action throughout the shoulder, elbow, wrist and hand. These interrelationships are encouraged and can be trained through Pilates exercises.

In dance, all the different forms of muscle function are often used together. One example is a dancer performing a develope a la seconde (lifting one leg to the side, while standing). There is a nonweightbearing, working leg, which must

be strong, precise and graceful; and a "supporting" or weightbearing leg which must be strong and stable. The torso and weightbearing leg must be well placed and well held isometrically. There is concentric and eccentric muscle work done to raise and to lower the leg. All these muscle groups must work together to produce what appears to the audience as one simple activity. It is essential to provide training in all these forms of muscular function in rehabilitation. Pilates offers this form of exercise.

The Pilates apparatuses also provide a functional form of rehabilitation because the speed of the exercises is variable. The machines also provide many different ways to strengthen each type of muscle action. For example, knee extension can be strengthened on one piece of equipment in supine, prone, standing and kneeling.

Joseph Pilates developed a large number of different exercises which he believed should be done for a few repetitions per session.[1] The maximum number of repetitions per exercise varies from 5 to 10. Pilates believed that more than 10 repetitions of any one exercise would exhaust the muscles. The benefits of performing only a few repetitions of each exercise are: 1) to emphasize the quality, not quantity of movement 2) to increase strength, while avoiding the build up excess muscle bulk, which is undesirable for dancers 3) to limit unnecessary strain on the body 4) to avoid overuse and repetitive strain injuries, which are the most common injuries for the dancer. Pilates wanted his students to feel exhilaration from a session, not exhaustion.

Performing many different exercises in rehabilitation is also helpful to decrease boredom. Straight leg raises become quite tedious—no matter how you spice them up. When dancers move or perform, they do not just execute movement. They feel it! They incorporate emotion and energy into action. There is little satisfaction to a dancer who performs the same step over and over. Boredom is likely to decrease the amount of time an injured dancer spends on his or her rehabilitation. Low repetitions and different exercises are likely to produce a higher quality of energy given to rehabilitation and increase compliance with the requirements of each program. The patient's endurance can also be increased by performing many different exercises.

The Pilates Method emphasizes increasing flexibility without overstretching. There are stretches incorporated directly into the strengthening exercises. There is an additional series of "ballet stretches" in the Pilates repertoire. All exercises are performed only through the full available range of motion. Avoiding overstretching is necessary in the rehabilitation of dancers because so many of these patients are already hypermobile.

It is very important that Pilates instructors pay close attention to alignment while the patients are exercising, as many have structural and muscular imbalances. It is easy for these patients to use substitution to execute the exercises. This makes the strong muscles stronger and keeps the weak muscles weak.[1] It is the job of the teacher to recognize muscular substitutions and to correct them, facilitating even tone and flexibility throughout the body.

DRAWBACKS OF THE METHOD

There are also a few drawbacks of the Pilates Method. Joseph Pilates emphasized that the spine be flat. He felt it should be flexible, but flat. In his book he states that, "When the spine curves, the entire body is thrown out of its natural alignment—off balance."[2] In physical therapy, however, we know the necessity of maintaining the neutral spinal curves of lordosis and kyphosis. In an attempt to gain a "flat" spine, Pilates created many more lumbar flexion, than extension exercises. It is here that patients with low back pain may have some difficulty. Patients often need more extension than flexion exercises, as is common in patients with lumbar disc disease and flexion disorders. The Pilates program must then be carefully adjusted to include an even number of extension exercises. Another drawback of the method is that the Pilates equipment is necessary to gain full benefit of the method. The mat work is good for maintenance of strength and flexibility, but it alone will not produce the same results. There must also be sufficient training and supervision for patients on Pilates apparatuses. Patients can be injured if exercising independently, without proper training. This naturally applies for all exercise equipment, including free weights, isotonic and isokinetic machines.

To date, there has been no published research done by health professionals on the Pilates Method. Very little literature exists on the Pilates Method. There have been two books written on Pilates, both of which are out of print. A few articles on Pilates have appeared in various newspapers and magazines (e.g. ELLE, Self, Dance magazine, Glamour and GQ).

The Pilates Method of Physical and Mental Conditioning provides thorough training to improve strength, flexibility and postural awareness. Its philosophy integrates the mind with the musculoskeletal and neurologic systems. Although Pilates has traditionally been used by dancers, the method is becoming more popular for use throughout general physical therapy practice. For further information on the original Pilates Method and training programs, contact the Pilates Studio at 1-800-223-7691.

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ORGANIZATIONAL MEETING FOR ACUTE/CHRONIC PAIN MANAGEMENT

There will be an organizational meeting at the Combined Sections Meeting on February 4, 1994 between 3:30 and 5:30 pm, for all interested CSM attendees in forming an Acute/Chronic Pain Management Special Interest Group in the Orthopaedic Section. The meeting will be hosted by Gaetano Scotece and Susan Stralka. For further information please contact Terri Pericak at the Orthopaedic Section office. 1-800-444-3982

PHYSICAL THERAPY FOR MUSIC RELATED INJURIES

By Nicholas F. Quarrier, MHS, PT

INTRODUCTION

Over the years, an increasing number of musicians have been referred to our clinic for treatment of acute and chronic pain conditions. These injuries seem primarily due to overuse and postural dysfunctions. Besides evaluation and treatment of injuries, educating the patient about prevention is extremely important. Musicians should be viewed as athletes. They each perform a skill that requires strength, coordination and flexibility—all the components of a true athlete. In our experience however, most musicians do not realize the importance of proper training. The musician must train for playing her instrument as a runner trains for a marathon. The purpose of this article is to discuss the special demands placed upon musicians and to examine the physical therapy evaluation and treatment.

THE MUSICIAN AS ATHLETE?

Performing Arts Physical Therapy incorporates principles from both sports and industrial physical therapy. The repetitive nature of the music playing is often compared to the repetitive nature of computer keyboard operators. The musician performs many repetitive movements and often these movements are extremely rapid. In order to perform these motions various body positions and postures are assumed. Some instruments are quite heavy and oddly shaped requiring awkward positioning. Certain musical pieces demand long periods of play without rest and many musicians practice their instruments nonstop for long hours. It is not uncommon for a musician to practice her instrument for 6-8 hours per day. Unlike the sports athlete, the time of instrumental practice generally increases prior to a performance. Training techniques such as tapering off prior to competition and interval training is unheard of by musicians.

Musicians also have similar psychological demands when compared to competitive athletes. Auditioning for a musical ensemble or symphony involves stress and intense competition. This competition continues in order to maintain their position. Teamwork requires learning each part perfectly. Stress induced by the drive for perfection pervades all musicians, so much that they will not put down their instrument until satisfied with the sound quality, musical punctuation, etc. Poor self confidence and peer pressure creates emotional stress which may eventually extend into physical complaints. And lastly, like playing a sport many musicians have severe stage fright prior to a performance.

A major training difference between musicians and sports athletes involves coaching. Most competitive sports athletes have their coaches observe and advise them about technique and training throughout their practice session. In contrast, the musician usually sees their teacher/coach for one or two hours per week, receives instructions on technique and quality and then practices along with no further observation until the following lesson. During this time poor habits can be developed, and abnormal repetitive movements may create tissue fatigue with eventual tissue breakdown—all possibly undetected due to limited coaching contact.

Fast speed repetitive movements, awkward body positions and long practice sessions with little rest in an emotionally stressful environment, predisposes a musician to overuse injuries. Tendonitis is the most common diagnosis of music-related injuries including specific diagnoses such as epicondylitis and DeQuervain's tendinitis. Other common diagnoses are carpal tunnel syndrome and thoracic outlet syndromes. Our clinic has had a large number of vague musculoskeletal dysfunctions which appear to be posturally related. This includes upper back, neck, head and temporomandibular joint pain.

PHYSICAL THERAPY INTERVENTION

Physical therapy intervention may be very beneficial for the evaluation, treatment and prevention of music-related injuries. Our department holds weekly screening clinics for performing artists to receive a brief evaluation and recommendations for care. This allows individuals to be seen early, before long lasting chronic pain conditions can evolve. Unfortunately many artists are reluctant to come to the screenings—for fear of being told to stop playing their instrument or because they just cannot stop practicing long enough in order to make the visit. Those that do not receive the screening can be educated quickly about the detriments of repetitive motions and the need to incorporate frequent rest periods into the practice hours. In order to reinforce rest periods I request each performer to carry around a water bottle with them and drink often. The results of a full bladder should dictate frequent rest periods!

Those individuals with treatable conditions are sent to our campus medical center with a request for a physical therapy referral (New York State requirement). Systemic and serious pathology is ruled out and the musicians returns to the PT Clinic for a more thorough evaluation and treatment.

INITIAL EVALUATION

Musculoskeletal evaluations for a musician is very similar to a typical orthopaedic, sport or industrial evaluation. The physical therapist must understand the demands of playing a musical instrument. It is helpful but not necessary to know how to play or read music. The physical therapist is well equipped to perform any biomechanical evaluation on any instrumentalist. Those movements or positions that are mechanically stressful may be addressed. The instrumentalist should know if corrections are possible in order to play skillfully. However, many instruments are designed poorly and cannot be positioned or played with biomechanical efficiency.

In order to properly assess the injury the therapist should observe the patient playing her instrument. The patient's usual seat, seat height and stand placement are recreated. As with patients with spinal pain, postural dysfunction is often painfree upon evaluation. Pain is elicited and evaluated by placing the patient in the stressful position or poor posture.

This is often the case with evaluating music-related injuries. The patient may be painfree in all tests until the tissue is stressed by posturing or playing the instrument.

Treatment

Once the injury has been assessed a plan of care is developed. Treatment of music-related injuries is also closely related to sports and industrial therapy. Exercises should be designed to match the activity required for instrument play, similar to the activities designed for an industrial work hardening program or, for example, throwing exercises of a baseball pitcher. Tissues that are tight must be stretched. Myofascial techniques are especially effective. Muscular imbalances must be addressed with the appropriate type of strengthening exercises. Eccentric, concentric and endurance exercises are appropriate with a special emphasis centered on providing proximal joint stabilization. Splinting or taping joints may be necessary to temporarily relieve some stresses imposed by awkward positions during the healing stage. Long term changes may be possible with instrumental adjustments in order to help support the instrument weight or alter the load bearing areas. These may include neck straps, floor stands, instrument key extensions, or by possibly changing the size of the instrument (this is noted mostly in children playing adult size instruments where smaller sizes for children are available).

Prevention

The patient must be educated about prevention. Most importantly, the musician/patient must be educated about the possible harmful effects of repetitious activities, the necessity of frequent rest breaks, and the importance of warmup and exercise.

There are numerous techniques available for the musician to use when physical rest is appropriate. Mental training is one very effective method. Practice time may be reduced by combining mental practice techniques with actual practice. This may involve reading through the music repeatedly or listening to an audio tape of the music without actually playing it.

Other prevention techniques to be discussed with the musician include reducing practice times prior to a performance, stretching exercises to improve upper extremity flexibility, proper head and spine alignment, healthy back exercises and relaxation exercises.

CASE EXAMPLE

A 20 year old female majoring in cello performance was evaluated for left forearm tendinitis. The history revealed chronic pain complaints beginning three years ago, when she was a freshman. At that time her practice hours increased drastically—during high school she practiced daily for 1 to 2 hours; at college she practiced 6 hours per day. Pain developed gradually in the left medial forearm and eventually into the left hand. Various medical physicians were seen including a neurologist who questioned carpal tunnel syndrome. Anti-inflammatories and rest were prescribed. This individual was reluctant to rest the affected tissues due to an intense desire for perfection and an extremely rigorous schedule of lessons, ensembles, and symphony rehearsals. During a summer musical tour in Austria the pain became so severe that she had to stop playing and at the time of evaluation was unable to play longer than 30 minutes without severe pain.

Upon physical therapy evaluation soft tissue tenderness was noted over the medial forearm flexors and hand intrinsics. Upper extremity muscle testing was performed and graded strong and painfree. Range of motion showed joint hypermobility throughout the wrist and fingers and motions were painfree. Special tests for carpal tunnel syndrome were negative. Assessment was inconclusive at this time in the evaluation. Observation of cello playing revealed that in order to press the strings down the wrist and distal interphalangeal joints hyperextended. At times the distal interphalangeal and metaphalangeal joints hyperextended as the hand was moved down the instrument's neck. A closer assessment of hand intrinsics revealed weak and painful lumbricales with a diminished metacarpal transverse arch in the hand. Apparently, in order to apply the required pressure to hold the strings down the patient had to hyperextend various joints. This hypermobility put the finger flexors at a disadvantage causing the lumbricales to overwork leading to gradual fatigue and breakdown. Gradual hand and forearm pain occurred and was especially aggravated during cello playing.

An example of treatment in the above case included strengthening of hand intrinsics and wrist extensors and flexors. The patient was instructed in dowel rolling with the shoulders flexed at ninety degrees, wrist extension/flexion dumbell repetitions, and specific grip and finger exercises. An example of two devices used effectively for this patient were the Impulse Inertial Exercise device (EMA, Newnan, Georgia) and the Rosedale Power Web (available through various training catalogs). The Impulse provides dynamic shoulder stabilization activities and the web provides hand intrinsic resistance strengthening. A dorsal wrist splint was also constructed in order to help stabilize the wrist and allow full hand and finger motions. The patient was able to proficiently play the cello while wearing the splint. Supporting the wrist in slight extension better aligned the long flexors and reduced the distal interphalangeal joint hyperextension. The daily strengthening exercises have provided improved stabilization. Improvement in endurance and reduction in pain allowed the patient to increase painfree practice to a reasonable schedule.

CONCLUSION

Musicians have been searching for health care professionals to demonstrate knowledge and interest in their unique problems. Physical therapists have much to offer musicians in the line of prevention and treatment of music-related injuries. Our knowledge of biomechanics and anatomy are well suited for understanding the overuse injuries that occur in this population. Musicians fully appreciate our interest in their livelihood and have expressed gratitude for any help we may offer. It is this gratitude that makes Performing Arts Physical Therapy very rewarding.

Nicholas F. Quarrier is the Clinical Coordinator at Ithaca College in Ithaca, New York.

NONTRADITIONAL APPROACH TO DANCE MEDICINE AND REHABILITATION

By Brent D. Anderson, PT and Susan R. Cherveny, MA

Dance medicine from a physical therapist's perspective can be a little overwhelming. There are many factors to consider. The purpose of this article is to provide physical therapists with a brief overview of common difficulties in understanding dance injuries as well as to present alternative methods of treatment. The major scope of this article is to stimulate interest in caring for the performing artist.

The dancer's perception of health care is slowly improving. Unfortunately, many dancers do not seek medical attention from traditional health care providers. Typically, traditional health care providers will advise dancers to lay off from dancing and not offer any alternative choices or therapies. Dancers will seek nontraditional methods of therapy such as massage, acupuncture, or homeopathy because they feel that these methods provide the aesthetic sensitivity and personalized approach to health and well being.

In a different light, the medical community's interest in performing artists is increasing. Since the late 70's the concept of "dancer as athlete" has prompted numerous articles that have appeared in sports medicine journals and publications, citing various similarities in dance and athletics. These writings have provided valuable information for medical professionals who treat dance injuries. It must be remembered that although the types of injuries sustained by dancers may be similar to athletes, they are not identical. Many traditional health care providers do not understand the high level and refinement of technical skill required by dance for partnering, jumping, turning, pointe work and extreme range of motion. It is unfortunate that physical therapy programs and sports medicine rotations do not include dance as part of their practical experience. However, most dancers prefer to be considered as an artist first and athlete second even though, by many, they are considered to have the most disciplined bodies and minds in the athletic world.

Those treating dancers should consider the varying styles of dance and the ever changing demographics noted by researchers. For example, comparisons of dance forms, age groups, sex, different technical schools of thought, university vs. professional companies and the variations within each of these subgroups. Most professional dance companies have a varied repertoire that include many forms of dance other than classical ballet. Although ballet serves as a foundation for these forms many choreographics works include: modern, jazz, ethnic and tap dance. It is important to consider the choreographic demands placed on the dancer before and after injury to effectively design prevention and rehabilitation programs. Unlike other dance forms, classical ballet utilizes a vertical orientation in the majority of movements. This requires the development of specific muscle groups for movement and balance. In contrast, other dance forms require a dancer to move in various planes and execute movement patterns on the floor-often shifting weight from sitting to standing, unusual partnering, falling, rebounding or turning. For example, unlike ballet whose aim is to defy gravity and appear weightless, modern dance uses gravity to assist in the flow of movement in order to appear grounded and weight-bearing.

Due to inconsistent parameters of dance medicine research, it has been difficult to extrapolate information that is applicable to all dancers and dance forms. Unlike sports that have clearly defined outcomes, dance is ever evolving. Styles of dance within the same discipline can be very different and yet both can be well respected. These differences may be attributed to the different schools of dance, companies, choreography, performance schedules, costuming, partnering, dance floors or shoe wear. Awareness of these differences is important to the health care provider who might be interested in dance medicine. Physical therapists will find that existing demographics (such as: body types, ages, hours of dance per week, etc.) of New York City Ballet or American Ballet Theater school's do not match up with what you might see at the local school of dance.

TREATMENT GOALS IN DANCE MEDICINE:

The first goal in dance medicine is restoring function to an injured dancer. It is important to note whether the dancer is injured at the beginning or end of the performing season because of time constraints in rehabilitation. Other considerations should include what type of roles the dancer is performing e.g. character, partnering or major pointe work. The dancer's status in a performing company, should also be considered such as e.g., corps de ballet, soloist or principal to indicate the amount of dancing required during the performing season.

This brings us to another very important question. What is normal function for a dancer? One must remember that restoring a dancer to the used concept of "neutral" will never meet a dancer's performance goals or needs. What might be normal for a dancer is at the extreme of the nonperformer's normal. Performers tend to be extremely in tune with their bodies, more so than most athletes. This heightened awareness, though it facilitates motor learning, places a higher demand on the therapist to become familiar with their "normal function." Listed below are steps toward understanding and successfully treating the injured performer.

Get to know the art of dance by becoming an informed observer of dance.

Attend concerts, read about dance history and criticism to understand its roots and technical development. Learn to recognize various choreographers' styles and creative philosophy.

Observe dance class, rehearsal, coaching, etc. It is difficult to treat dancers if you do not know what they do or how they do it. An observer can learn from corrections given in class to other dancers from experts and other professional dancers.

Learn the language of dance. Therapists should purchase an inexpensive ballet dictionary and syllabus to familiarize themselves with dance terminology.

Take dance class regularly to develop a physical sensitivity and appreciation for tremendous strength, flexibility and endurance that dance demands on the human body.

Volunteer time in the dance community. Dancers respond favorably to care givers and other supportive individuals

who understand the lifestyle, financial stresses, and temporary nature of a career in dance.

Get to know the science of dance.

Fortunately for dancers, the science of dance has led to an awareness of safer teaching methods in an attempt to prevent premature injuries in the dancer. This changing philosophy attempts to bridge the gap between artists and medical professionals in the dance community.

Subscribe to journals such as *Kinesiology and Medicine for Dance, Impulse,* and *Medical Problems of Performing Artists.* These journals provide treatment and research information for dancers.

Attend workshops pertaining to treating the injured dancer to network with other health care professionals in the field. These workshops allow an opportunity to present original research and become familiar with research in related areas.

Join dance medicine organizations. International Association of Dance Medicine and Science, Med-Art, and American Alliance for Health, Physical Education, Recreation and Dance.

Volunteer time teaching, screening and treating students in the schools.

Subjects that are very successful include cross training, injury prevention and self treatment techniques.

Establish cost effective means of treatment.

1. The use of Theraband™, or elastic resistance, in rehabilitation of dance injuries has been shown to be useful, particularly in the foot and ankle (Molnar, 1988). It is inexpensive and easy for the dancer to use in a variety of environments such as class, home or at the theater. However, it is important to guide the dancer in proper use, amount of resistance, number of sets and repetitions so as not to aggravate or create an injury before proper healing has begun. In addition, as an adjunct to rehabilitation, Theraband can also be used for upper body conditioning which is usually not addressed in the dance classroom and presently considered an integral part of cross training for dancers.

2. Gymballs can be used in a therapeutic setting or at home. Bouncing techniques in the sitting position for dancers with lumbar or lower extremity problems are useful as the dancer is gradually acclimated to jumping and pointe work before full eccentric loading can be instituted. Refinement of proprioceptive skills and core stability are two important goals to be considered in these types of patients, specifically if the dancer has had repeated injury or weakness noted by the physical therapist.

3. Taping techniques not only can be used to aide in supporting injured joints, but can also be used to facilitate proprioceptive and alignment training.

4. When the dancer is recovering from an injury it is important for him to continue with a prescribed home program of therapeutic exercise. This, coupled with physical therapy, provide a well rounded program as the dancer returns to full functional activity. Unfortunately, many dancers tend to use the technique class as a form of rehabilitation. Dancers must realize the increased risk of reinjury upon premature return to technique class. It is vital that the dance teacher or coach become involved in the dancer's rehabilitation for safe return to optimal level of performance.

THERAPEUTIC EXERCISES FOR DANCERS

Warm up and floor/mat exercises. Warm up exercises for the dancer may consist of other activities even before actual dance technique class has begun. This is true especially for older dancers who have sustained wear and tear of muscles and joints due to the repetitive nature of dance over time. Outside of the dance studio, light cycling or brisk walking are two activities deemed appropriate to raise the body's core temperature in preparation for activity. However, in the dance studio a nonstop series of foot articulations (barefoot) facing the barre in parallel and external rotation, plantar flexion (demi-pointe) and flat balances with slow upper body stretches are useful ways to begin the warm up process, especially if class time is limited.

Floor barre for dancers in supine, prone and sidelying positions consist of a series of prescribed exercises utilizing flexion, extension, rotation, abduction and adduction of the joints which is a valuable method of warming up before class. In addition, this approach emphasizes the experience of movement in a guided setting. Exercises are performed nonweightbearing without the use of a mirror which can distract from proprioceptive training.[1]

The use of Pilates-Based™ *(Editors Note: See Loren Stolarsky's article about the Pilates® Method)* mat work is a method of preparation for dancers that specifically addresses core stability and spine articulation. Many dancers demonstrate significant flexibility in the lumbar spine, but exhibit decreased flexibility in the thoracic spine due to the nature of the ballet technique. The use of Pilates-based mat work addresses these imbalances through integration of proper breathing techniques to facilitate movement. It is common for ballet dancers to hold their breath when moving. Thus, it is important to learn how to effectively coordinate breathing and movement to enhance fluidity and grace on stage as well as decrease premature fatigue and maximize muscular efficiency. This can be facilitated using the Pilates-based technique.

Dancers with injured backs not only have to learn to stabilize in neutral but far beyond neutral. They must be able to move into the extremes of flexion/extension, sidebending, rotation and any combination of the above with numerous orientations to gravity. In an effort to accomplish this goal we have developed the Polstar™ approach. This approach utilizes a natural progression of movement and stabilization, challenging the extremes of normal movement. Much of the work is done on Pilates-based equipment.

In order to minimize down time of an injured dancer, one should take into consideration the following factors: what role the patient is performing, the stage of the season the dancer is in, the level of dancer's ability, the repertoire and the patient compliance with home exercises. If a patient is returned to strenuous activity, serious injury and long term disability can occur. The physical therapist is often the individual who balances the many variables and makes the decision as to when to return the dancer to fall activity.

The ultimate goal of dance medicine and science should be to maximize performance and minimize injury. This can be done through prevention and cross training. Proper assessment of demands placed on dancers at the schools of dance and performing companies is essential. Dance experience, hours of training per week, hours rehearsing per week, the repertoire, etc. should be considered. It is essential to know the limitations, strengths, weaknesses and imbalances of each dancer. At this time a custom cross training or performance enhancement program should be introduced. This can range from a formal Pilates or Pilates-based program to something as informal as Theraband and the use of a racquetball.

It is the author's hope that this article will serve to stimulate interest in caring for the performing artist, make physical therapists aware of common problems in treating performers and lastly to serve as a resource pertaining to a physical therapist's involvement with dance medicine.

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BOOK REVIEW

By Sharon A. Ross, PT

Pain: Mechanisms and Management, Cailliet R, Philadelphia: F.A. Davis Co., 1993, 134 pp, softcover, illus, $19.95

This book is the eleventh in the Pain Series by Dr. Cailliet. In this text, he discusses current thoughts regarding the neuroanatomic, neurophysiologic, and psychosocial aspects of pain. Acute and chronic pain and therapeutic interventions are described, as well as a multitude of specific syndromes.

The book's first two chapters discuss the neuroanatomy and neurophysiology of pain in the central, peripheral and sympathetic nervous systems. Although quite detailed, the authors' exquisite and numerous diagrams were most helpful. Another chapter built on these concepts to explain the scientific basis for pharmacologic interventions. The controversy surrounding the use of narcotics for acute and chronic pain was also discussed.

The psychosocial aspect of pain was covered in three chapters and topics such as psychological testing, biofeedback and depression were discussed. Another chapter covered physical interventions which included heat and cold, TENS, exercise and nerve blocks. These were briefly described and served as a good review.

A large part of the book was devoted to pain in specific regions of the body. This was the most disappointing part of the book. Although there was an excellent discussion of both head and face and lowback pain, the sections on upper and lower extremity pain were basic. Of course, the reader only has to refer to one of Dr. Calliets' previous books for more details!

There was, an excellent overview of fibromyalgia syndrome and the recent theories regarding the pathomechanics of this challenging disorder. The author's discussion of the complicated physiological and psychosocial aspects of chronic pain was enlightening and thought provoking. His critique of the ever-growing numbers of pain clinics was most timely in this atmosphere of health reform.

Most orthopaedic therapists would benefit from reading this book as it provides a better perspective on how to address patients with pain. Although the reader may not alter currently employed treatment techniques, it does reinforce the importance of addressing pain as both a cause and a result of physical dysfunction.

Sharon A. Ross is a committee member of OP.

ORTHOPAEDIC PHYSICAL THERAPY HOME STUDY COURSE 94-1
TOPIC: LUMBAR SPINE
COURSE LENGTH: 6 SESSIONS JANUARY THROUGH JUNE 1994

Proposed Authors and Topics:

- Carl DeRosa, PT, PhD, and James Porterfield, PT, MA, ATC
  Lumbopelvic Anatomy & Mechanics and their Relationship to Low Back Pain
- James McGavin, MSc, PT, DipMDT
  McKenzie Approach to the Lumbar Spine
- Anne Putnam, MHS, PT, et al
  Thoracolumbar Spine: Postsurgical Rehabilitation of the Orthopaedic Patient
- James Swain, MPT
  Radiology of the Lumbar Spine
- Raymond Vigil, PT
  Industrial Medicine and the Lumbar Spine
- Russell Woodman, MA, PT
  Cyriax Approach to the Lumbar Spine

Each manuscript will include:
ANATOMY • BIOMECHANICS • PATHOMECHANICS • EVALUATION • TREATMENT

THE EDITOR: Kent Timm, Ph.D., P.T., ATC, SCS, OCS, FACSM
St. Luke's OSF
Saginaw, MI 48602
(517) 771-6355

REGISTRATION FEES:	Before December 3	After December 3
	$150.00 Orthopaedic Section Members	$200.00
	$225.00 APTA Members	$275.00
	$300.00 Non-APTA Members	$350.00

Special discounted rates are available for institutions with multiple registrants. Please call the Section office for complete information.

*If notification of cancellation is received in writing prior to the course, the registration fee will be refunded, less a 20% adminstrative fee. Absolutely no refunds will be given after the start of the course.

EDUCATIONAL CREDIT: 30 contact hours
A certificate of completion will be awarded to participants after successfully completing the final test.
Only the registrant named will obtain the CEUs.
No exceptions will be made.

REGISTRATION FORM
ORTHOPAEDIC PHYSICAL THERAPY HOME STUDY COURSE 94-1

Name _____
Mailing Address _____
City _____ State _____ Zip _____
Daytime Telephone Number (_____) _____ APTA # _____

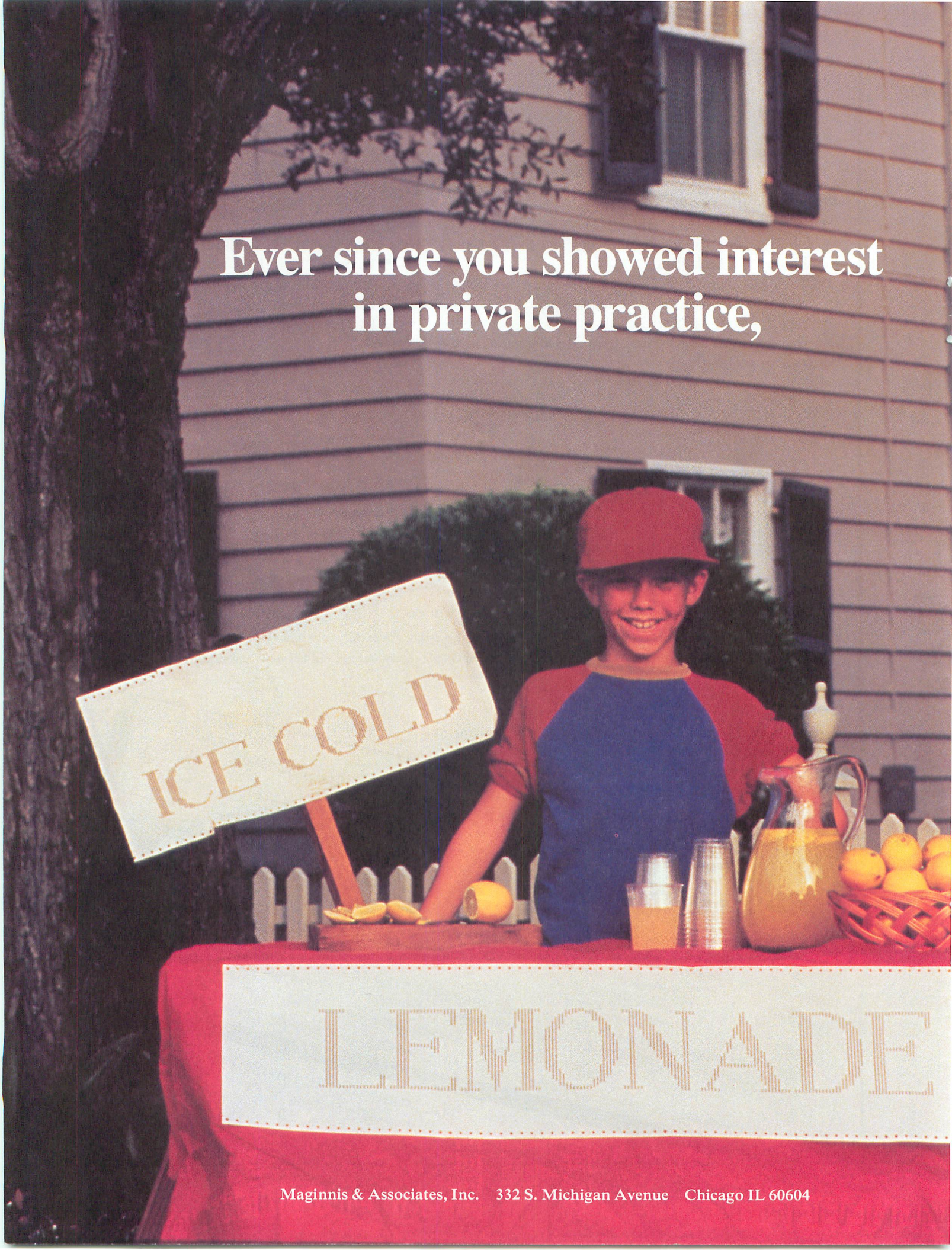
Please check: ☐ Orthopaedic Section Member ☐ APTA Member ☐ Non-APTA Member (Wisconsin Residents add 5.5% Sales Tax) _____

☐ JOIN THE SECTION AND TAKE ADVANTAGE OF THE DISCOUNTED REGISTRATION RATE IMMEDIATELY!
☐ I wish to become an Orthopaedic Section Member ($50) and take advantage of the member rate.

Please make check payable to: **Orthopaedic Section, APTA**

Mail check and registration to: **Orthopaedic Section, APTA, 505 King Street, Suite 103, La Crosse, WI 54601**

FOR MORE COURSE INFORMATION, CONTACT:
Orthopaedic Section, APTA
505 King Street, Suite 103, La Crosse, WI 54601
1-800-444-3982 or 608-784-0910
FAX 608-784-3350



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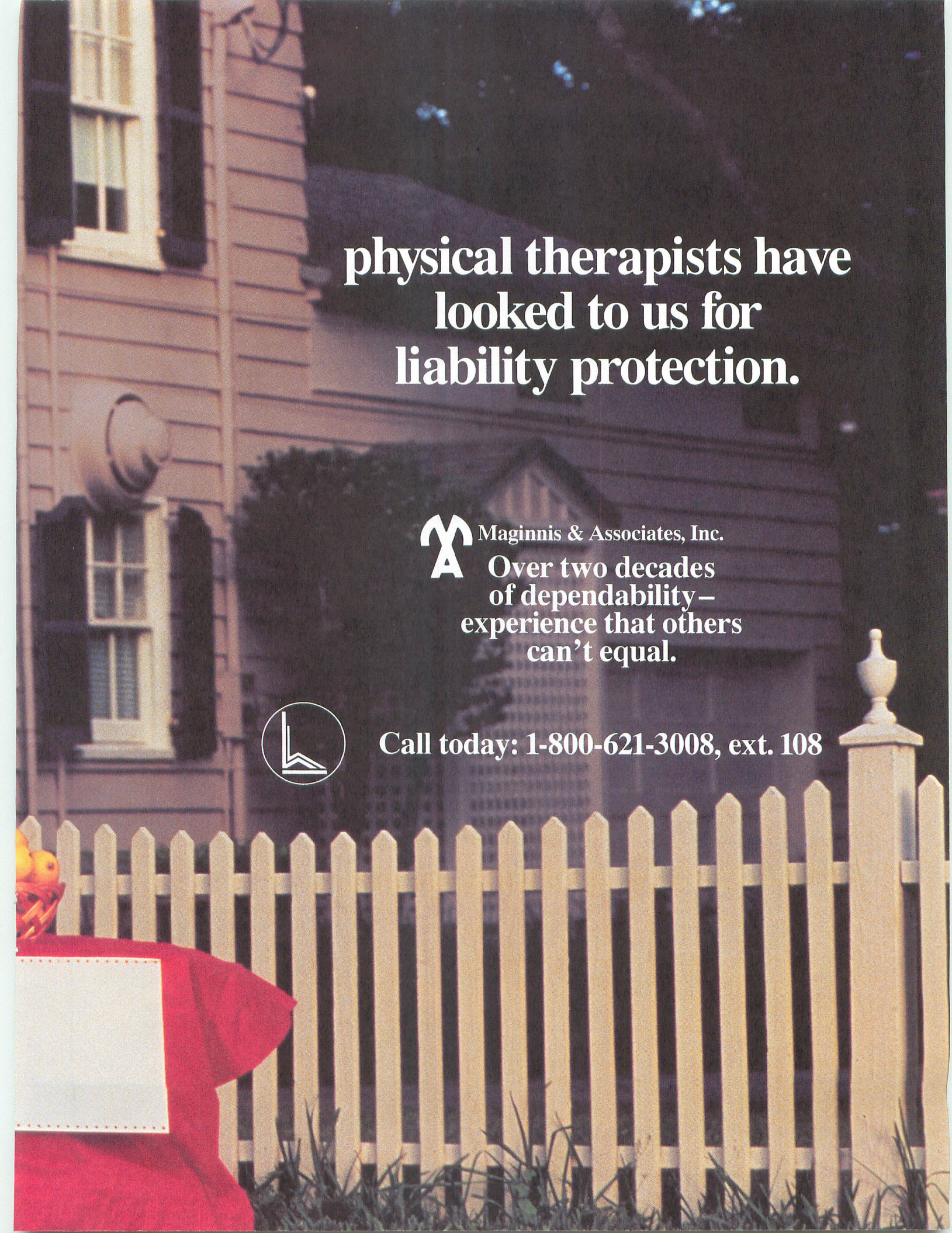
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The North American Free Trade Agreement: Changing Economic Partnership

By Tom Berkedal, an Investment Executive who provides investment advice to the Orthopaedic Section, APTA

Our relationship with Mexico is rapidly changing. The giant country to the south is no longer just a popular winter vacation spot or a source of unrelenting illegal immigration to the United States. Increasingly, Mexico is emerging as an important economic partner, one that is of growing interest to investors.

Generating much of this interest in Mexico, of course, is the North American Free Trade Agreement (NAFTA), a historic plan to lower trade barriers among the U.S., Canada and Mexico. If approved by all three countries, NAFTA would have major repercussions, many of which would be positive but some of which would also be negative. In terms of people, jobs and industries, there would be winners and losers. And since no one can predict all the repercussions with certainty, NAFTA is surrounded with questions.

Essentially, NAFTA would liberalize trade and create a regional trading bloc with 360 million people and $6 trillion in goods and services produced each year. Many people believe this new North American trading bloc would be a stronger global competitor than the individual countries would be on their own — much like the unified Europe. But like Europe, which has been struggling more than expected to make the single-market concept a reality, the NAFTA ideal may be harder to execute than first believed.

There are some real concerns about NAFTA. The greatest concern is jobs. While NAFTA would create export-related jobs in all three countries, U.S. and Canadian workers worry that more manufacturing jobs will be lost to low wage Mexico. More than 1,900 U.S. companies already have moved hundreds of thousands of assembly jobs to Mexican plants near the U.S. border. U.S. wages can't compete with Mexico's $1.80 an hour manufacturing wage. High skill jobs, such as software engineering, may also move to lower-cost Mexico.

Another major concern is the environment. Unless enforceable side agreements are made, NAFTA critics worry that U.S. and Canadian companies will move polluting operations to Mexico to escape costly pollution restrictions in their home countries.

Yet despite these problems, NAFTA is full of opportunities. There are opportunities for companies that form cross-border alliances for mutual benefit, opportunities for workers in growth industries, and opportunities for investors who have a global outlook and patience. Here are a few examples:

- **Consumer goods.** There is a growing consumer market in Mexico. It may be a good time to invest selectively in providers of consumer goods, such as fast-food companies.
- **Infrastructure.** Mexico's industrial infrastructure is in need of investment, creating opportunities for construction companies and producers of capital goods. Telecommunications equipment is a particularly good opportunity just now, as Mexico's state owned telephone company has recently been privatized.
- **Oil.** Oil related equipment and services should have huge sales and opportunities in Mexico since under NAFTA foreign vendors will be allowed to bid on up to half of the contracts let by the state owned oil company. Foreigners may not own Mexican oil, however.

Other areas of opportunity in Mexico are financial services, export services, computers, semiconductors, medical equipment and automotive parts.

But don't so many "winners" imply that others are losers? Certainly there will be declining industries and companies as a result of NAFTA. The Mexican textile industry, for example, needs modernization and could lose out to the U.S. textile industry in the short run. But affected companies don't necessarily have to be losers. Some are smartly positioning themselves by forming alliances that will make the most of free trade. Those companies are looking to create "win-win" situations that promote economic growth for all, not "win-lose" situations, will be the biggest winners of all.

If you would like additional information please contact Tom through the Orthopaedic Section office.

WELCOME NEW MEMBERS

The Orthopaedic Section, APTA, Inc., would like to welcome all of our new students, affiliate and active members who have joined the Section within the last three months:

Jennifer Aanestad
Debra Abramson
Cathy Addington
Stephanie Adin-Meyers
James Aiton
Donald Alexander
Lennis Almon
Christine Anderson
Kevin Anderson
Virgil Anderson
Jytte Andreasen
Marlene Arayata
Diana Arenas
Nichole Ashizawa
Charmaine Avancena
Nancy Avena
Sharon Boagnall
Joe Bailey
Laura Baldwin
Tina Ballezzi
Danielle Barlow
Anette Baronet
Ellen Barton
Robert Beaty
John Becht
Kathy Beck
Patricia Belk
Kandi Bell
Liselle Bennett
Cathy Berman
Robert Bickel
Linda Biggers
Maria Blankenship
Vicky Bledsoe
Kristine Bodnar
Jodi Bourdin
Christopher Bowe
Suzanne Boyer
Raymond Bradley
Nancy Bradshaw
Anna Bright
Mitzi Brown
Randall Brown
Rachel Brunette
Alice Buckalew
Andrea Burns
Nora Cacanindin
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Ingrid Ching
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Lisa Clancy
T Mike Cliften
Robert Cohen
Colette Coiner
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Phyllis Collins
Mary Cook
Ermanno Costabile
David Costea
Kristin Cottingham
Jennifer Cronin
Cindi Culwell
June Cunningham
Yvette Currie
Melisa Curtis
John Czarnecki
Robert Dale
Sandra Dale
Valerie Dangelo
Suzanne Davis
Randall Dean
Howard Deck
Amy Delap
Tricia Delp
Catherine Demjanenko
Nancy Denny
Bonnie Dent
Lisa Desrochers
Stacey Devine
Sharon Dickman
Carl Dickson
Catherine Dietrick
Dina Difluri
Regina Doanato
Jennifer Dowdy
Robert Drew
Christina Dube
Kimberly Dunn
Clyde Duremdes
Kristi Dutcher
Jacquelyn Dylla
Dean Eberele
Nancy Edwards
Michael Einink
Paula Elrod
Richard Erhard
Karen Erickson
Sharon Etter
Dirk Everaet
Fagbemi Fakolujo
AmyBeth Felice
Nancy Fick
Timothy Fifer
Veronica Flores
Todd Forman
Carole Forsyth
Suzanne Freeman
Karen Fritz
Melanie Frost
Mairead Geary
Margaret Gee
Jena George
Barbara Getz
Hany Ghobrial
Janice Giegerich
Judy Giergielewicz
Bryan Gilbert
Pamela Gillespie
Stacy Glass
Amy Glassberg
Frank Glenn
Danielle Glinski
Blanca Gonzalez
Kimberly Goodrich
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Karen Graham
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Maurice Granger
Valerie Grant
Arlette Gradesic
Lenore Griebsch
Karen Gruendling
Marna Guerra
Erlinda Gutierrez
Debra Hagel
Anne Haile
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James Harbert
Anne Harmon
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Stuart Harris
Elizabeth Hart-Haines
Dwight Hartman
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Leza Hatch
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Jan Hayes
Matthew Heaney
Diana Hearn
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Glenn Herman
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Jean Iwen
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Ellen Jalowecki
Christa Janhsen
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Aline Johnson
Blair Johnson
Keith Johnson
Laura Johnson
Susan Johnson
Mark Kalinowski
Charles Kammann
Ulrike Kammash
James Kee
Deb Kegelmeyer
Douglas Kemp
Kim Kiamie
Christine Kinney
Constance Kinniery
Vernon Kisaberth
Charlotte Kittilsen
Sarah Kovach
JoAnn Krabbe
Lynda Krieger
James Krzaczek
Sidney Kuecker
Genevieve Kutterer
Min-Suk Kwak
Joseph L'Abbe
Alex Lage
Christopher Lalich
Sandra Landry
Gina Langdon
Laura Lathinghouse
Tracy Lattin
Kathleen Lawrence
Carol Leach
Sean Learish
Darrell Lee
Frances Lee
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Lauren Lindley
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Kelly Lockwood
Connie Loewen
Mindy Logenbach
Alan Lommasson
Chad Long
Catherine Loose
Chandra Lopez
Roger Lov
Anne Lusk
David Mallette
Froilan Manaclay
Joanne Marion
Matthew Marren
John Mart
Lydia Martinez
Kari Mastroleo
Dianna Mathews
Mary Matthews
Gary Mattingly
Tracey Mattingly
Alexander Matz
Gayle Mayson
Beth McCall
Sean McGarrity
Eugene McGloin
Phillip McKee
Daniel McShane
Stephan Medcalf
Lisa Mello
Veronica Merone
Bridgett Meyers-Rice
Bonnie Miller
Sharon Miller
Elise Milner
Daniel Mitchel
Eva Mitchell
Joyce Mitchell
Witold Mlynarczyk
Robert Mollica
Melissa Molnar
Mike Morand
Robert Morgan
Andrea Morrison
Kimberly Moyle
Michael Mueller
Edna Mullen
Jan Mullen
Caridad Munoz
Derly Munoz
Marilyn Murrell
Marianne Nazirides
Anna Noble
John Noonan
Robert Norton
Larry Norwood
K Lynne Odom
Margo Pace
Vivian Pace
Robert Palmer
Nancy Palumbo
Elizabeth Paly
Appollo Paranal
Debra Parman
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Brad Payne
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Daniel Peterson
Laura Pettit-McDonald
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Lynn Poirier
Russell Poker
Deborah Pollak
Teresa Pollo
Regin Potts
Vanessa Pra
Sue Proctor
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William Pugh
Linda Puterbaugh
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Rachel Roach
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Keith Roper
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Marilyn Rubin
Donna Ruocco
Brett Russell
Kevin Russell
Tracey Russo
Amelia Rye
Gregory Saito
Ronal Satow
Russell Satur
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Zachary Schade
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Cheryl Scholl
Kimberly Scholl
Polly Schrag
Patricia Schultz
Eric Schwabe
Karen Seniuk
Saad Shaban
Scott Shaffer
Elizabeth Shaw
Jacqueline Shay
Susan Sheely
Wei-Ying Shen
Carol Sherr
Pamela Shroup
James Simmons
Kasey Simpson
Gina Sloan
Beata Smela
Brenda Smith
Mary Anne Smith
Rhoda Smith
Vinod Sohini
Lillian Sorokin
Kevin South
Phillip Sparacino
Richard Spencer
Susan Spice
Jason Spier
Peter Sprague
Cherie Sproed
Patricia Staszak
Clifford Steagall
Pamela Steffl
Micheline Stephens
Susan Stevens
Elizabeth Stevenson
Melissa Stewart
Patricia Stiepel
Joni Stoker
Charles Strickell
Carolyn Strine
Timothy Stump
Patricia Sulita
Judith Sumner
John Susteren
Tanya Tarail
Teimour Tavanbakhsh
Barbara Taylor
Gail Teaford
Antoinette Ten Brink
Noel Tenoso
Cathleen Thome
Michael Tianco
Laurie Tressler
Terrance Tripp
Julie Turba
Nancy Turpin
Alan Tyso
Tina Uberti
Clare Urban
Michael Valer
Michelle Versteeg
Amelita Villegas
Alan Vogel
Louise Wall
Priscilla Walters
Wendy Washburn
Blake Waterman
Bret Weiss
Robbin Wickham
Brian Williams
Zahava Wilson
Laura Winburn
Myra Wisehaupt
Rebecca Wool
Cassandra Wright
Lisa Wright
Jamie Wyatt
Douglas Yacker
Howard Yap
Michael Zalman
Keith Zamiela
Hecto Zayas
Karis Zbaeschuk
Karen Ziegler
Jodi Zipp
Susan Zitzmann

CSM 1994 — Final Program Schedule

New Orleans, LA — February 2-6

TUESDAY, FEBRUARY 1
5:30—7:30 PM
Section Program Chairs Meeting

WEDNESDAY, FEBRUARY 2
7:30 AM—5:15 PM
A Combined Approach to Manual Therapy
Pre-Conference Course—AAOMPT

8:00 AM—3:00 PM
Council of Section Presidents Meeting

8:00 AM—5:00 PM
Orthopaedic Certified Specialist Exam

3:00—5:30 PM
Section Officers Forum

7:00 PM
Specialist Certification Awards Ceremony

THURSDAY, FEBRUARY 3
8:00 AM—4:30 PM
Council of Executive Personnel Meeting

9:00 AM—5:00 PM
Cumulative Trauma Hotline

9:00 AM—Noon
Health Care Reform Update
Joint with Health Policy and Private Practice
(See Health Policy and Legislation Section program for details)

1:00—2:30 PM
Orthopaedic Practice Analysis: Blueprint for the OCS Exam
Orthopaedic Specialty Council Members:
Col. Mary Ann Sweeney, MS, PT, OCS
Mary Milidonis, MMSc, PT, OCS
Rick Ritter, MA, PT

2:30—4:30 PM
Manual Therapy Round Table

2:30—3:30 PM
Overview of Clinical Residency Programs: Is this a Career Direction for You?
Speaker: Carol Jo Tichenor, MA, PT

What Models of Residency Programs Currently Exist in the USA
Speaker: Michael Rogers, PT, OCS

3:30—4:30 PM
Mechanics of the Intervertebral Disc
Speaker: Stanley Paris, PT, PhD

Successful Physical Therapy Interventions for Patients with Diagnosis of Cervical Herniated Nucleus Pulposis
Speaker: Bjorn Svendsen, PT, DHSc

4:30 PM
Exhibit Hall Open

FRIDAY, FEBRUARY 4
8:00—10:00 AM
Use of Scapular Taping to Treat Upper Quadrant Pain Syndromes
Speaker: Carrie M. Hall, MHS, PT
The Aerobic Component of a Return to Work Program
Moderator/AV Assistant: Mike Downing, PT
Joint with Cardiopulmonary Section

8:00—9:15 AM
The Aerobic Evaluation as Part of a FCE
Speaker: William Temes, MS, PT, CCS

9:15—10:00 AM
The Aerobic Component of the Conditioning Program for Return to Work
Speaker: Stephen M. Slane, MS, PT

8:00—10:00 AM
Research Platform Presentations
Concurrent Sessions
AV Assistants: Catherine Patla, PT
Ellen Hamilton, PT
Kim Schoensee, PT

8:00 AM—Noon
Orthopaedic Board of Directors Meeting

9:00 AM—5:00 PM
Cumulative Trauma Hotline

10:00—11:00 AM
Exhibit Hall Open

11:00 AM—Noon
Use of Scapular Taping to Treat Upper Quadrant Pain Syndromes—Continued
The Aerobic Component of a Return to Work Program—Continued
Moderator/AV Assistant: Mike Downing, PT

11:00—11:30 AM
The Aerobic Component of Work Simulation
Speaker: Stephen M. Slane, MS, PT

11:30—Noon
Panel on Implementation of a Comprehensive Program for Return to Work
Speakers: Stephen M. Slane, MS, PT
William Temes, MS, PT, CCS
Research Platform Presentations—Continued

12:30—2:30 PM
Research Issues Forum: Low Back Pain Classification Systems
Speakers: Richard DiFabio, PT, PhD
Paul Beattie, PT, PhD, OCS
Anthony Delitto, PT, PhD
Moderator/AV Assistant: Susan Appling, PT, OCS
Joint with Research

1:30—2:30 PM
Head and Neck Business Meeting
Performing Arts Business Meeting

2:30—4:00 PM
Orthopaedic Board of Directors/Council of Committee Chairs Meeting

2:30—3:30 PM
Exhibit Hall Open

3:30—5:30 PM
Case Studies in Head and Neck Management—A Round Table Discussion
Moderator: Lauri Lazarus, PT
AV Assistant: Ellen Hamilton, PT

3:30—5:30 PM
Performing Arts Round Table
AV Assistant: Kim Schoensee, PT

3:30—4:30 PM
Physical Therapy and the Musician
Speaker: Nicholas Quarrier, MHS, PT

4:30—5:30 PM
The Anatomy of the Neck and Throat; Physical Therapy for the Singer
Speaker: Sean Gallagher, PT

Organizational Meeting for Chronic Pain Management Special Interest Group (SIG)
Speaker: Gaetano Scotece, PT
Practice Issues Forum
Section Practice Chairs only

4:00—6:00 PM
Eugene Michael's Research Forum: Methods of Patient Classification
Joint with Research

SATURDAY, FEBRUARY 5
8:00—10:00 AM
Orthopaedic Section Business Meeting/ Practice Issues Forum

10:00—11:00 AM
Orthopaedic Board of Directors Post Meeting

10:00—11:00 AM
Exhibit Hall Open

11:00 AM—12:30 PM
Occupational Health SIG Business Meeting

1:00—2:00 PM
Manual Therapy Business Meeting
Joint with AAOMPT

1:00—2:30 PM
Research Platform Presentations
Concurrent Sessions
AV Assistants: Allen Lee, MS, PT, OCS
Susan Appling, PT, OCS
Occupational Health SIG—Hot Topics
~~Worker's in a Managed Care Environment~~
JOINT WITH PRIVATE PRACTICE

1:30—2:30 PM
Foot and Ankle Business Meeting

2:30—3:30 PM
Exhibit Hall Open

3:30—5:30 PM
Poster Presentations

3:30—5:30 PM
Research Platform Presentations
Concurrent Sessions
AV Assistant: Allen Lee, MS, PT, OCS

Case Studies in Foot and Ankle Management—A Round Table Discussion
Speaker: Tom McPoil, PT, PhD

3:30—6:00 PM
Manual Therapy for Carpal Tunnel Syndrome
Speaker: Brian Miller, PT

7:00—8:00 PM
Black Tie and Roses/Rose Excellence in Research Award Reception

8:00—11:00 PM
Orthopaedic Section 20th Anniversary Celebration

SUNDAY, FEBRUARY 6
7:00—8:00 AM
Section Program Chairs Meeting

8:00—10:00 AM
Juvenile Rheumatoid Arthritis
Joint with Pediatrics
(See Pediatric Section program for details)
Speakers: Abraham Gadalia, MD
Robert Dehne, MD

10:15—12 Noon
Ilizarov Procedure
JOINT WITH PEDIATRICS
Speakers: Michele Zembo, MD
Kathleen Kelleher, RN, MSN
Karen Barnes Ball, PT

SECTION NEWS

EDUCATION PROGRAM COMMITTEE

I am pleased to report on the activities of the Education Program Committee and wish to thank Lola Rosenbaum and other committee members for their assistance on many projects.

Combined Sections Meeting, 1994—The program for CSM ' 94 is fully developed and packed with lots of exciting speakers. The Orthopaedic Section has as many as five programs running concurrently during many time slots. We believe that we have developed a program which will have items of interest for all members.

Twentieth Anniversary Celebration—The Orthopaedic Section will be celebrating its 20th Anniversary during CSM '94 and has planned a special celebration in conjunction with our annual Black Tie and Roses reception. Look for information about our Cajun Feast and Dance Party—Free to all!

Preconference Course—The Orthopaedic Section is excited about the Preconference Course we are cosponsoring with the American Academy of Orthopaedic Manual Physical Therapists (AAOMPT). The day will feature seven internationally known speakers providing updates in various areas on manual therapy. The course will be provided at a reasonable fee and will be offered in New Orleans on the day prior to CSM. See the inside front cover for more detailed information.

Roundtables and Special Interest Groups—There will be an organizational meeting that a new Round Table group is forming for CSM '94 called Chronic Pain Management. This group is being organized by Gaetano Scotece. There will also be meetings and clinical presentations for four other Roundtable groups: Head and Neck, Performing Arts, Manual Therapy, and Foot and Ankle; and one special interest group, Occupational Health.

Home Study Courses—We are very pleased to be offering two Home Study Courses on the Lumbar Spine in 1994. Each will consist of six chapters and will address various aspects of spine management. Look for information on the course beginning in January on page 16. The response to other Home Study Courses has been excellent with almost 1000 participants in the 1993 upper extremity course.

Review for Advanced Orthopaedic Competencies—The Section has offered two Review Courses this year; one in Seattle, Washington and one in St. Louis, Missouri. We are currently planning a seven day course for July '94 in Williamsburg, Virginia. These courses have been very successful and the course evaluations by participants have been outstanding.

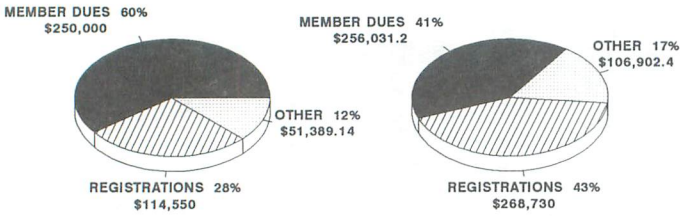
Graduate Programs in Orthopaedic Physical Therapy—The Committee is currently compiling information on academic programs leading to advanced degrees in orthopaedic physical therapy. This information should make it easier for members to obtain pertinent information about graduate programs and their content.

Re-entry Program for Orthopaedic Physical Therapists—The Education Committee is working with individuals to develop a packet of information for physical therapists wishing to re-enter the physical therapy field, specifically in the area of orthopaedics. We are hoping to survey some of these individuals to determine how the Section can be most helpful in assisting them in returning to practice.

Nancy T. White, MS, PT
Education Program Chair

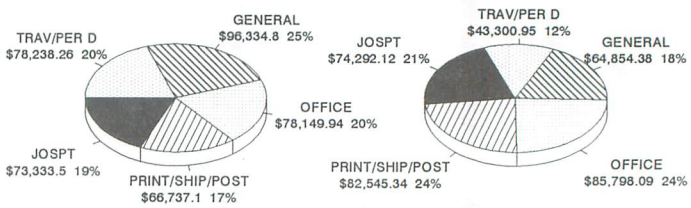
FINANCE COMMITTEE

1993 BUDGET TO ACTUAL
INCOME - June 30, 1993
(+51.9% over our expected budget YTD)



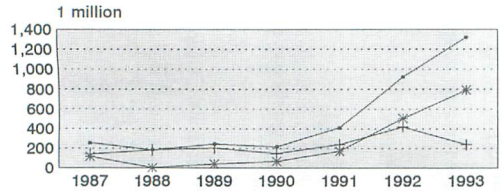
BUDGETED: $392,793.66 **ACTUAL: $350,790.88**

1993 YTD BUDGET TO ACTUAL
EXPENSES - June 30, 1993
(-10.7% under our expected budget YTD)



BUDGETED: $392,793.66 **ACTUAL: $350,790.88**

YEAR END FISCAL TRENDS
1987-1992 (1993 data is as of June 30, 1993)

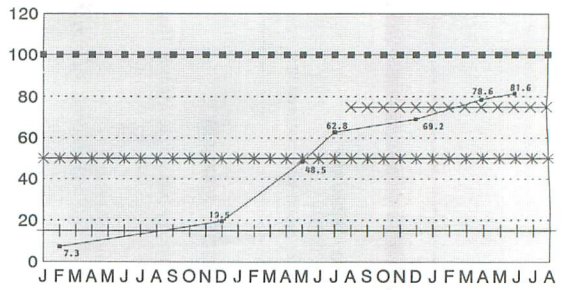


	1987	1988	1989	1990	1991	1992	1993
ASSETS	255	185	243	217	410	925	1,320
LIABILITIES	141	183	203	148	240	417	238
EQUITY	114	2	40	69	170	508	794

ASSETS LIABILITIES EQUITY

To nearest thousand

RESERVE FUND
January 1, 1991 to June 30, 1993



Reserves Minimum 1993 Goal IDEAL STANDARD

1993-94 MASTER CALENDAR

November

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December

S	M	T	W	T	F	S
			1	2	3	4
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January

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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER

1 Mary McMillan Scholarship Award Deadline
3 *OP* Mailing Date
3-7 Review for Advanced Orthopaedic Competencies—St. Louis, MO
8 *OP* Deadline Date - materials for January issue
11 Veterans Day
19 *JOSPT* Mailing Date
25 HOLIDAY - Thanksgiving Day

DECEMBER

1 Nominations due - Paris Distinguished Service Award
Nominations - All APTA Special Awards due
20 *JOSPT* Mailing Date
24 HOLIDAY - Christmas Eve
25 HOLIDAY - Christmas Day
31 New Years Eve

JANUARY

1 HOLIDAY - New Year's Day
8 *OP* Mailing Date
20 *JOSPT* Mailing Date

February

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13	14	15	16	17	18	19
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27	28					

March

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27	28	29	30	31		

April

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24	25	26	27	28	29	30

THE STANDARDS FOR ORTHOPAEDIC MANUAL PHYSICAL THERAPY— *Now Available*

This document includes a description of the clinical and academic components which the **American Academy of Orthopaedic Manual Physical Therapists** outlined for manual therapy residency training in the United States. The information was part of AAOMPT's successful application for the U.S. to become a member of IFOMT. Possible models for clinical supervision of physical therapists, and course objectives and content are outlined along with extensive bibliographies in orthopaedic manual physical therapy.

The cost of the standards is $15 for AAOMPT members and $25 for nonmembers of AAOMPT. Make check payable to AAOMPT and send to:

Mike Rogers, PT, OCS
AAOMPT
1500 45th Avenue, Suite B
Gulfport, MS 35901

Applications for AAOMPT membership can also be obtained from Mike Rogers.

"HELP US DEFINE CUMULATIVE TRAUMA"

Volunteers are needed to staff a two-day hotline on cumulative trauma disorders during the 1994 Combined Sections Meeting in New Orleans. Those interested in signing up should call Karen Brown at APTA Public Relations at (800) 999-2782, ext. 3217.

Volunteers' duties will include answering the telephones and responding to callers' questions on the treatment and prevention of cumulative trauma disorders. Volunteers will be scheduled to work in shifts of two hours or more.

At least 40 volunteers will be needed to cover the four lines which will be operated from 9 a.m. to 5 p.m. on both Thursday, February 3rd and Friday, February 4th.

The Orthopaedic Section and the APTA are co-sponsoring this public service event. The hotline, which will be promoted in magazines and newspapers and on radio and television broadcasts nationwide, has a potential of reaching 20 million people through the media.

PRACTICE PROBLEMS??

*The Practice Committee of the **Orthopaedic Section** needs to know your problems! Your input will define practice issues of importance to you as physical therapists in the area of orthopaedic physical therapy.*

Please write, call or fax the issues you need to have addressed and resolved. Spending a few moments to share your problems may well be one of the better uses of your time today! Your voice will be heard if you speak up.

Telephone: 800-444-3982
FAX: 608-784-3350

Scott Stephens, MS, PT
Orthopaedic Section, APTA, Inc.
Practice Committee
505 King Street, Suite 103
La Crosse, WI 54601

Name: _____

Address: _____

City: _____ *State:* _____ *Zip:* _____

Daytime Telephone #: _____

In my practice, I'm having trouble with _____

_____

_____

Please get in touch with me to discuss _____

_____

_____

REQUEST FOR RECOMMENDATIONS ORTHOPAEDIC SECTION OFFICES

The Orthopaedic Section of the APTA needs your input for qualified candidates to run for the offices listed below. To serve is exciting and an honor! If you would like the opportunity to serve the Section or know of qualified members who would serve, please fill in the requested information. Return this completed form to the Chair of the Nominating Committee as soon as possible before January 1, 1994. The Nominating Committee will solicit the consent to run and biographical information from the person you recommend.

_____
Print full name of recommended nominee

Address _____

_____

City _____

State _____ Zip _____

Home Phone Number (_____) _____

Office Phone Number (_____) _____

is recommended as a nominee for election to the position of:

CHECK THE APPROPRIATE POSITION:
☐ DIRECTOR 1 (3 years)
☐ DIRECTOR 2 (2 years)

☐ NOMINATING COMMITTEE MEMBER (3 years):
Should have broad exposure to membership to assist in formation of the slate of officers.

PLEASE RETURN BY JANUARY 1, 1994 TO:
Gary Smith, PT
Orthopaedic Section, APTA
505 King Street, Suite 103
La Crosse, WI 54601

Nominator: _____

Address: _____

_____

Phone: _____

Performing Arts Physical Therapy Special Interest Group is Now Forming

The Orthopaedic Section has given tentative approval for the formation of a performing arts special interest group. There are no fees for section members interested in joining this group.

The group will present a roundtable at Combined Sections Meetings to share ideas about this specialization, to discuss treatment methods specific to the performer and to establish a national network of performing arts therapists.

The group will be holding another round table at the Combined Sections Meeting in New Orleans on February 4, 1994. If you are interested in joining this group or learning more about this unique patient population, please call, write or fax:

Sean Gallagher, PT
2121 Broadway, Suite 201
New York, NY 10023
1-800-223-7691 or Fax (212) 769-2368

CALL FOR NOMINATIONS FOR ORTHOPAEDIC SPECIALTY COUNCIL MEMBER

The Orthopaedic Section needs your input for qualified candidates to be appointed as a member of the Orthopaedic Specialty Council. To serve is exciting and an honor! If you would like the opportunity to serve the Section or know of qualified members who would, please fill in the requested information and send or FAX it to the Section office, along with the candidate's curriculum vitae no later than **January 2, 1994.**

Print full name of nominee _____

Address _____

_____

City _____

State _____ Zip _____

Work Telephone (_____)_____

Home Telephone (_____) _____

Qualifications for Specialty Council Member:

_____

_____

_____

_____

1) Must be willing to serve for a four (4) year term beginning July 1, 1994
2) **Must be an Orthopaedic Certified Specialist (OCS)**

PLEASE RETURN BY JANUARY 2, 1994 TO:
Orthopaedic Section, APTA, Inc.
505 King Street, Suite 103
La Crosse, WI 54601
FAX NUMBER (608) 784-3350

Nominator: _____

Address: _____

Telephone: _____

THANK YOU !!!!

ORTHOPAEDIC PHYSICAL THERAPY LOGO PIN: ($10 Section Members $20 non-Section Members)

See the order form on page 33 for complete ordering instructions.

TAPE MEASURE with Section logo: Six foot cloth tape. **($4 Section Members, $6 non-Section Member, $3.75 in quantities of 10 or more Section Members only)**

See the order form on page 33 for complete ordering instructions.

CALL FOR NOMINATIONS

The Nominating Committee of the Orthopaedic Section's Occupational Health Physical Therapists S.I.G. is soliciting candidates for the offices of Vice President, Secretary and Member of the Nominating Committee. The election will be held at the Combined Sections Meeting scheduled for New Orleans, February 3-6, 1994.

If you wish to be more involved and contribute to the growth and development of Occupational Health Physical Therapy, please contact members of the Nominating Committee as listed or contact the Orthopaedic Section Office in La Crosse, Wisconsin, 1-800- 444-3982.

Dennis Driscoll, PT
2555 E. Adams
Tucson, AZ 85716

Barbara Merrill, PT
12128 Marilla Drive
Saratoga, CA 95070

Robert W. Richardson, PT
118 Lakeland Drive
Mars, PA 16046

CALL FOR COMMITTEE MEMBERS

The Nominating Committee looks forward to hearing from you regarding your interest to be a member of one of the following committees:

Bylaws Committee
Education Committee
Practice Committee
Reimbursement Committee
Research Committee

Robert W. Richardson, PT
Chair, Nominating Committee

POST GRADUATE PROGRAMS

ORTHOPAEDIC PHYSICAL THERAPY

	Name of School/Program	Contact
1.	**Northwestern University**	Judith Falconer, Ph.D. Director of Graduate Studies Northwestern University Medical School Programs in Physical Therapy 345 East Superior Street, Room 1323 Chicago, Illinois 60611 Phone: (312) 649-8160
2.	**MGH Institute of Health Professions**	Alan Jette, Ph.D., Program Director Daniel Dyrek, M.S., Orthopaedic Specialization Coordinator 15 River Street Boston, Massachusetts 02108-3402 Phone: (617) 726-8000
3.	**Emory University**	Dr. Pamela A. Catlin, Director Division of Physical Therapy Emory University School of Medicine 2040 Ridgewood Drive, NE Atlanta, Georgia 30322
4.	**Northeastern University**	Jane Toot, Ph.D., P.T. Northeastern University Department of Physical Therapy 360 Huntington Avenue Boston, Massachusetts 02115
5.	**University of Pittsburgh**	Karen S. Maloney, M.S., P.T. Physical Therapy Department University of Pittsburgh 101 Pennsylvania Hall Pittsburgh, PA 15261 Phone: (412) 624-8938
6.	**University of Kentucky**	Dean P. Currier, Ph.D. Department of Physical Therapy, HP 500 University of Kentucky Medical Center Lexington, Kentucky 40536 Phone: (606) 233-5941
7.	**University of Minnesota**	Louis R. Amundsen Course in Physical Therapy Box 388, Mayo Building University of Minnesota Health Sciences Minneapolis, Minnesota 54555 Phone: (612) 376-4680
8.	**Kaiser-Permanente Medical Center**	Carol Jo Tichenor, MA, PT, Director Physical Therapy Residency Program in Advanced Orthopaedic Manual Therapy Kaiser-Permanente Medical Center 27400 Hesperian Boulevard Hayward, California 94545 Phone: (510) 784-4259
9.	**University of Southern California**	Lucinda Baker, Ph.D., P.T. Acting Chair Department of Physical Therapy University of Southern California 2025 Zonal Avenue, CSA 249 Los Angeles, California 90033 Phone: (213) 224-7967
10.	**Medical College of Virginia**	Virginia Commonwealth University Department of Physical Therapy P.O. Box 224 MCV Station Richmond, Virginia 23298 Phone: (804) 786-0234
11.	**Georgia State University**	Paul D. Andrew, Ph.D., P.T. Director of Graduate Studies Department of Physical Therapy Georgia State University Atlanta, Georgia 30303 Phone: (404) 651-3091
12.	**Washington University**	Marybeth Brown, Ph.D. Washington University Medical Center P. O. Box 8083 660 South Euclid Avenue St. Louis, Missouri 63110 Phone: (314) 362-3670
13.	**Temple University**	Roberta A. Newton, Ph.D. Director of Graduate Studies Department of Physical Therapy 3307 North Broad Street Philadelphia, Pennsylvania 19140
14.	**Long Island University**	Lydia Wingate, Ph.D., Director Division of Physical Therapy Long Island University Brooklyn Campus University Plaza Brooklyn, New York 11201 Phone: (718) 403-1063
15.	**University of Alabama at Birmingham**	Marilyn R. Gossman, P.T., Ph.D. Director Division of Physical Therapy University of Alabama at Birmingham 1714—9th Avenue South Birmingham, Alabama 35294 Phone: (205) 934-3566
16.	**Hahnemann University**	Neil Pratt, Ph.D., P.T. Curriculum Coordinator of Orthopaedics Program in Physical Therapy Hahnemann University Mail Stop 502 201 North 15th Street Philadelphia, PA (215) 448-1750
17.	**University of Indianapolis**	Ann Clawson, M.S., P.T. Coordinator, M.H.S. Program University of Indianapolis 1400 E. Hanna Avenue Indianapolis, IN 46227 Phone: (317) 788-3500
18.	**Quinnipiac College**	Russell Woodman, Associate Professor Department of Physical Therapy School of Allied Health and Natural Sciences Quinnipiac College Hamden, CT 06518 Phone (203) 288-5251 (Ext. 264)

	Name of School/Program	Contact
19.	**Boston University**	Catherine M. Certo, Sc.D., P.T. Chairperson Department of Physical Therapy Sargent College of Allied Health Sciences Boston University One University Road Boston, MA 02215 Phone: (617) 353-2720
20.	**Institute of Graduate Physical Therapy**	Stanley V. Paris, Ph.D., P.T. Professor and Chairman Institute of Graduate Physical Therapy 1240 Johnsons Ferry Place, Suite C-5 Marietta, GA 30068 Phone: (404) 977-7642
21.	**Kaiser Permanente—Los Angeles**	Julie Patterson, M.P.H., P.T. Kaiser Permanente—Los Angeles Orthopaedic Physical Therapy Residency Program 6041 Cadilac Avenue Los Angeles, CA 90034 (213) 857-2458
22.	**University of Florida**	Martha Clendenin, P.T., Ph.D. Box J-154 Gainesville, FL 32610 (904) 395-0085
23.	**Georgis State University**	Paul D. Andrew, PhD, PT Director of Graduate Studies Department of Physical Therapy Georgia State University Atlanta, GA 30303 Phone: (404) 651-3091
24.	**Northern Arizona University**	Tom McPoil, PhD Department of Physical Therapy Box 15105 Flagstaff, AZ 86011-5105 Phone: (602) 523-1499
25.	**Texas Woman's University**	Scott M. Hasson, EdD, PT, FACSM Director of Advanced Graduate Studies TWU, School of Physical Therapy Houston, TX 77030 Phone: (713) 794-2080
26.	**Touro College**	Joseph Weisberg, PT, PhD Barry Z. Levine School of Health Sciences 135 Carman Road, Building 10 Dix Hills, Long Island, NY 11746 Phone: (516) 673-3200
27.	**Samuel Merritt College**	Martha Jewell, PhD, PT 370 Hawthorne Ave. Oakland, CA 94609

CALL FOR NOMINATIONS APTA SPECIAL AWARDS

Mary McMillan Scholarship: Honors outstanding physical therapy students

Dorothy E. Baethke—Eleanor J. Carlin Award for Teaching Excellence: Acknowledges dedication and excellence in teaching in physical therapy

Signe Brummstrom: Acknowledges individuals who have made significant contributions to physical therapy

Award for Excellence in Clinical Teaching: Acknowledges individuals who have made significant contributions to physical therapy clinical education through excellence in clinical teaching

Catherine Worthingham Fellows of the APTA: Recognizes those persons whose work has resulted in lasting and significant advances in the science, education, and practice of the profession of physical therapy

Henry O. Kendall and Florence P. Kendall Award for Outstanding Achievement in Clinical Practice: Acknowledges contributions to physical therapy in general (must have engaged in extensive clinical practice at least fifteen years)

Marion Williams Award for Research in Physical Therapy: Given for sustained and outstanding basic, clinical, or educational research

Lucy Blair Service Award: Acknowledges members whose contributions to the Association have been of exceptional value

Mary McMillan Lecture Award: Honors a member of the Association who has made a distinguished contribution to the profession; through a lecture presented at Annual Conference

Minority Achievement Award: Recognizes continuous achievement by an entry-level accredited physical therapy program in the recruitment, admission, retention, and graduation of minority students

Minority Initiatives Award: Recognizes the efforts of a physical therapy program in the initiation and/or improvement of recruitment, admission, retention and graduation of minority students

Chapter Award for Minority Enhancement: Acknowledges exceptionally valuable contributions to an APTA chapter to the profession relative to minority representation and participation

Margaret L. Moore Award for Outstanding New Academic Faculty Member: To acknowledge an outstanding new faculty member who is pursuing a career as an academician and has demonstrated excellence in research and teaching

Helen J. Hislop Award for Outstanding Contributions to Professional Literature: To acknowledge individual physical therapists who have made significant contributions to the literature in physical therapy or in other health care disciplines

Jack Walker Award: In honor of the contributions made to physical therapy by Jack Walker, former President of Chattanooga Pharmaceutical Company (now the Chattanooga Corp), this corporation has funded an annual award of $1,000 for the best article on clinical practice published in *Physical Therapy*

Golden Pen Award: Gives recognition to members who have made significant contributions to the advancement of *Physical Therapy*

Eugene Michels New Investigator Award: This is a $1,000 incentive award to encourage continued research efforts in physical therapy

Chattanooga Research Award: In order to encourage the publication of outstanding physical therapy clinical research reports, the Chattanooga Corporation has funded an annual award of $1,000 for the best article on clinical research published in *Physical Therapy*

Dorothy Briggs Memorial Scientific Inquiry Award: To give public recognition to physical therapist members of the APTA for outstanding reports of research in physical therapy, undertaken while they were students and published in the official journal of the APTA

Space limitations do not permit a complete description of awards and scholarships, or the complete criteria. If you desire additional information, please contact the Section office.

Send your recommendations/nomination by December 1, 1993 to:
Orthopaedic Section, APTA, Inc.
505 King Street, Suite 103
La Crosse, WI 54601
(800) 444-3982

Bulletin of the Orthopaedic Section cover offer. . . $15.00 each or $100.00 for set of nine for members, and $25.00 each or $150.00 for set of nine for non-members.

We'll send you a 9¾" ×10" print of a Bulletin cover or the set of nine, maroon ink on cream stock. Just add $3.00 to cover postage and handling. (Please allow 3 weeks for delivery.)

Write to Orthopaedic Section, 505 King, Suite 103, La Crosse, WI 54601.

PLEASE INCLUDE ORTHOPAEDIC SECTION MEMBER'S NAME.

Name _____

Address _____

City _____

State _____ *Zip* _____

Check Amount _____ *(Pre-paid only)*

Visa/MasterCard # _____

Expiration Date _____

☐ *Print number* _____ ☐ *Set of nine*

Signature _____

ORTHOPAEDIC SECTION, APTA, INC.

PUBLIC RELATIONS AND AUDIOVISUAL MATERIALS

ORDER FORM

_____ Orthopaedic Physical Therapy Logo Pins. (Section Members $10.00, non-Section Members $20.00)

_____ Coffee Mugs. Available in two styles: (indicate below which style, "X"). Can be sold in two of each style.
_____ 1) Orthopaedic Physical Therapy definition, or
_____ 2) . . .the touch of class.
($5.50 each or $20 per set of four Section Members, $8 each or $30 per set of four non-Section Members)

_____ Brass Paperweight of Section Logo. (Section Members $25, non-Section Members $40)

_____ Tape Measure with Section Logo. (Section Members $4, non-Section Members $6, $3.75 each in quantities of 10 or more Section Members only)

_____ Orthopaedic Physical Therapy Brochures. (Section Members $20 per 100 brochures, non-Section Members $35 per 100 brochures)

_____ Orthopaedic Physical Therapy Competencies. ($45 Section Members, $65 Educational Institutions, $95 non-Section Members)

_____ Orthopaedic Section, APTA, Inc. Membership Certificate. Subsequent yearly update stickers will be available at no charge. (No charge unmounted, $45 mounted, Section Members only). Please print below exactly how you would like your name and degree to appear.

_____ Prints of *Bulletin* Covers. ($15 each or $100 for set of nine Section Members, $25 each or $150 for the set of nine non-Section Members). Print numbers requested _____ .

_____ Display Booth. ($75.00 per use plus return shipping). Indicate date needed by _____ .

_____ Orthopaedic Physical Therapy Slide/Tape Program or VHS Video Format (Section Members $25 per use plus return shipping, purchase price $120.00, non-Section Members $50 per use plus return shipping, not available for sale to non-Members). Indicate date needed by _____ .

_____ 10-Year Cumulative Index of *The Journal of Orthopaedic and Sports Physical Therapy.* (Section Members $2.50, non-Section Members $5.00)

_____ Body Stamps. Set of three—front, side, rear. (Section Members $25.00, non-Section Members $30.00)

_____ Musculo-Skeletal Examination and Recording Guide by Geoffrey D. Maitland. (Section Members $10.00, non-Section Members $14.00)

_____ Logo T-Shirts (please indicate style, size and color): M, L, XL
_____ Golf Shirt with pocket and fashion collar (white or blue) (Section Members $20, non-Section Members $25)
_____ Fruit of the Loom Sweatshirt (grey or white) (Section members $20, non-Section Members $25)
_____ Mock T-Neck/Long Sleeve (grey, white or black) (Section Members $16, non-Section Members $21)

Name _____
(PLEASE INCLUDE ORTHOPAEDIC SECTION MEMBER'S NAME)

Address _____

City _____ State _____ Zip _____

Telephone _____

Please add $3.00 per order for postage and handling **Wisconsin residents add 5½% sales tax**

Please make your check payable to the: **Orthopaedic Section, APTA, Inc.**
505 King Street, Suite 103
La Crosse, WI 54601
608/784-0910, FAX 608/784-3350, 800/444-3982

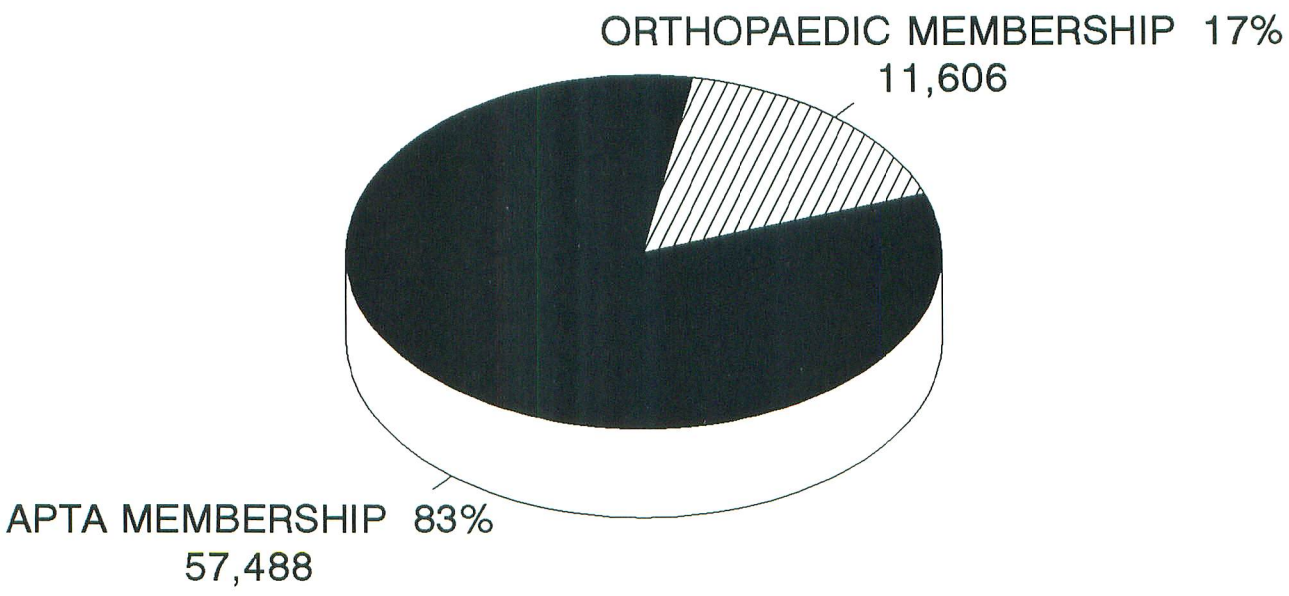
Signature _____ (Note: Minimum **charge** order $20)

VISA/MasterCard (circle one) # _____ Exp. Date _____

ORTHOPAEDIC SECTION, APTA, INC.

RATIO OF APTA AND ORTHOPAEDIC SECTION MEMBERSHIPS

AS OF AUGUST 31, 1993



Orthopaedic Physical Therapy Practice
American Physical Therapy Association
505 King, Suite 103
La Crosse, WI 54601

Orthopaedic Section's 20th Anniversary Celebration

Saturday, February 5, 1994
New Orleans Hilton
7:00 - 11:00 *p.m.*

The Orthopaedic Section is celebrating its 20th anniversary in 1994. We are starting off the evening with our traditional Black Tie and Roses reception where the Rose Excellence in Research Award winner will be honored. A New Orleans jazz band will provide the background music for the reception. Complimentary beer, wine and soda will be available.

After the awards ceremony, the jazz band will lead a Mardi Gras parade to the Mark Twain Courtyard where members will feast on crawfish and shrimp, Cajun style. Don't worry, bibs will be provided!

Once the feasting has ended the dance floor will be cleared and the band will change its repertoire so members and guests can dance on into the night.

We hope you will all be able to come join us in celebrating the Section's 20th Anniversary, New Orleans Mardi Gras style!